

Montana State Legislature

2013 Session

Additional Documents include:

- *Business Report**
- *Roll Call- attendance**
- *Standing Committee Reports,**
- *Table Bills, Fiscal reports etc.**
- *Roll Call Votes**
- *Witness Statements**
- *Informational items**
- *Visitor Registrations**
- *Any other Documents;**
 - ~Petitions if any?**
 - ~Any and all material handed in after the meeting end.**

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BUSINESS REPORT
MONTANA SENATE
63rd LEGISLATURE - REGULAR SESSION
SENATE JUDICIARY COMMITTEE

Date: Monday, February 11, 2013
Place: Capitol

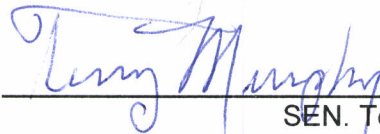
Time: 9:00 AM
Room: 303

BILLS and RESOLUTIONS HEARD:

SB 220 - Establish guidelines and immunities for physicians who provide end of life care - Sen. Dick Barrett

EXECUTIVE ACTION TAKEN:

Comments:



SEN. Terry Murphy, Chair

MONTANA STATE SENATE
2013 JUDICIARY COMMITTEE
ROLL CALL

DATE: 2/11/13

<u>NAME</u>	<u>PRESENT</u>	<u>ABSENT/ EXCUSED</u>
CHAIRMAN, SENATOR TERRY MURPHY	—	
VICE CHAIRMAN, SENATOR SCOTT SALES	—	
SENATOR SHANNON AUGARE	—	
SENATOR ANDERS BLEWETT	—	
SENATOR SCOTT BOULANGER	—	
SENATOR JOHN BRENDEN		—
SENATOR ROBYN DRISCOLL	—	
SENATOR JENNIFER FIELDER	—	
SENATOR LARRY JENT		—
SENATOR CLIFF LARSEN	—	
SENATOR CHAS VINCENT		—
SENATOR ART WITTICH	—	

MONTANA STATE SENATE
Visitors Register
SENATE JUDICIARY COMMITTEE

Monday, February 11, 2013

SB 220 - Establish guidelines and immunities for physicians who provide end of life care

Sponsor: Sen. Dick Barrett

PLEASE PRINT

Name	Representing	Support	Oppose	Info
BRADLEY William S	MAA S		X	
Margaret Dore	self		X	
Annie Bikacich	self		X	
Mary McClachen	Self		X	
Rev. Eric A. Stennett	Self + ^{St. Andrew's Lutheran} Church		X	
Garnett Rope	self		X	
Jerry L Jacobson	SELF		X	
Dora Lou Jacobson	Self		X	
Ted Friesen	Self		X	
JIM GOING	SELF		X	
Judy Tankink	SELF		X	
BARBARA GOING	SELF		X	
Gregg Thorne	Right to Life of MT		X	
Pat Brooks	CMRA		X	
Robbie Hafe	CMRA		X	
LORRAINE BAUER	Self		X	
Forb Bauer	SELF		X	
Craig ^{MD} & Rob ^{PhD} Tappan	Selves		Y	
Kearn and Kugan	"		X	
PHILIP TUMMARELLO	SELF		X	X
John Meyer	Self		X	
Doris Fischer	self	X		

Please leave prepared testimony with Secretary. Witness Statement forms are available if you care to submit written testimony.

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Monday, February 11, 2013

SB 220 - Establish guidelines and immunities for physicians who provide end of life care

Sponsor: Sen. Dick Barrett

PLEASE PRINT

Name	Representing	Support	Oppose	Info
JANERNUBER	SELF	X		
Aline R. Schuman	self		X	
HENRY SCHUMAN	SELF		X	
TOM HETES	SELF	X		
BOB ERICHELLO	SELF	X		
Margi McCoppey	self		X	
CURT FREEMAN	self		X	
Rose Nistler	Self		X	
Shirley King	self		X	
Walter F. Waterman	Self-	X		
David Cooper	self	X		
Debra H. Cooper	self	X		
JIM SMOCK	SELF			
BLAKE Bentler	SELF	X		
Christina Hayden	self		X	
Melba C. Freeman	self		X	
Dan O'Neill	SELF		X	
BRIAN McCullough	SELF	X		
Derek Giers	self		X	
Patricia Ballistr	self	X		
BOB BALHISE	SELF	X		

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PLEASE PRINT

Name	Representing	Support	Oppose	Info
<i>[Signature]</i>	CMDA		X	
Kenneth V. Eden	myself	X		✓
Berniece C. Stulc	myself		X	
Emily Butler	canal	X		
Rosanne G. Larson	myself		X	
Ruth P. Leaver	self		X	
Cindy Williams	self		X	
JEFFREY STAHLCKER			X	
Paul Gorsuch MD	self		X	
Rev. Vern Sandersfeld	self		X	
Harry Drail	self	X		
Mary McDouglass	self	X		
Darlene Myles	Self		X	
James Myles	Self		X	
Sinda Jackson	self & Lutherans for Life		X	
Robert L. Zimorino	Myself	X		
Amy Hetzler	CBC and myself	X		
Karen Nelson	self	X		
James Nelson	Self	X		
Jacob Anderson	Self	X		
Stephene L. Mango	Self	X		
Terry Rocke	Montana District LEMS		X	

Please leave prepared testimony with Secretary. Witness Statement forms are available if you care to submit written testimony.

SENATE JUDICIARY COMMITTEE

Sponsor: **Sen. Dick Barrett**

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MONTANA STATE SENATE
Visitors Register
SENATE JUDICIARY COMMITTEE

Monday, February 11, 2013

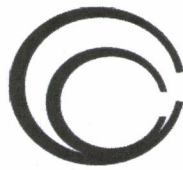
SB 220 - Establish guidelines and immunities for physicians who provide end of life care

Sponsor: Sen. Dick Barrett

PLEASE PRINT

Name	Representing	Support	Oppose	Info
Mignon Waterman	Self	X		
Jane Lee HAMMAN	"	X		
Jacqueline Denmark	ACLI		X amend	
Greg Van Housen / intl	State Farm		X amend	
Dwight Easton / intl	Farmers		X amend	
Kay Petersen	Self	X		
TOM STOCKTON	SELF		X	
Dr. More	Self	X		
Glenn Potter-Giffin	Self	X		
Garrold Johnson	Self	X		
Kathleen McNich	Self	X		
Matt Kuntz	NAMI Modern		X	
Clark Brading	Self	X		
Pat Bradley	Self	X		
Bob McNamee	Self	X		
Jett Caselofsky	MT Family Foundation		X	
Niki Zupanic	ACLU of MT	✓		
John Wilkinson				
Mike Foster	Catholic Hospitals		✓	
Thorne Silverberg	Self	X		
Moe Wosopka	Montana Catholic Conf		X	
MILCE COX	Catholic Hospitals of St. Patrick Hospital		X	

Please leave prepared testimony with Secretary. Witness Statement forms are available if you care to submit written testimony.



compassion & choices
of Montana

Support • Educate • Advocate. Choice & Care at the End-of-Life.

Why Physicians Support Death with Dignity

Caring for dying patients includes the sacred duty to listen to their fears, communicate their options, and honor their choices for end of life care.

"The Baxter decision is enormous because it confirms that upon a terminal patient's request, a physician can provide aid in dying. If a physician provides a prescription for medication and the patient decides for themselves whether to take the medication to achieve a peaceful death, the physician cannot be prosecuted. So, the physician is free to assist the terminal patient in dying should the patient request that."

Stephen Speckart, M.D., Missoula

"What I hear over and over again from patients is 'just don't let me die in pain, don't let me die out of control, don't let me lose my mind as I am dying.' I think with this ruling now those concerns that are expressed by patients, I am going to be able to, with much greater confidence, say that you will have control over your own passing, that it won't be in my control or the control of the state. When you are ready you will be able to go."

George Risi, M.D., Missoula

"To require dying patients to endure unrelievable suffering, regardless of their wishes, is callous and unseemly. Death is hard enough without being bullied. Like the relief of pain, this too is a matter of mercy."

Marcia Angell, M.D.
*Senior Lecturer, Harvard Medical School,
Former Editor-in-Chief, New England
Journal of Medicine*

"Physician aid in dying is an option available to mentally competent, terminally ill patients. If concerned about an unbearable dying process, the patient can request a prescription from their physician for medication they can consume to bring about a peaceful death. In Washington, this option was made legal through citizen initiative. The Montana Supreme Court recently ruled physicians can provide this option among other end-of-life treatments under Montana law."

Tom Preston, M.D.
*Medical Director, Compassion & Choices
of Washington*

"Results of a national survey of 1,088 physicians revealed that a clear majority of physicians believe that it is ethical to assist an individual who has made a rational choice to die due to unbearable suffering."

Louis Finkelstein
Institute for Religious and Social Studies

"A national survey of 677 physicians and 1,057 members of the general public by HCD Research in October 2005, revealed that the majority of both groups believe that physicians should be permitted to dispense life-ending prescriptions to terminally ill patients who have made a rational decision to die due to unbearable suffering. The survey indicated that nearly two-thirds of physicians (62%) believe that physicians should be permitted to dispense life-ending prescriptions."

HCD Research (Independent Survey)

"The relief from my terminally-ill patients and their families is palpable. I think I've also helped families accept their family members' final wishes in the face of terrible illness. Aid in dying for terminal patients is an essential part of good, compassionate end of life care."

***Nicholas Gideonse, M.D.
Director, Primary Care Center,
Oregon Health Science University***

"We support Aid In Dying as a way to allow competent patients with terminal diseases to decide how to live the last moments of their lives. When all other approaches to relieve the suffering of a terminal illness have failed...assisted death is an extension of compassionate medical care."

American Medical Students Association

"I have treated scores of terminally-ill patients, and not one of them wanted to die. Not one of them wanted to 'kill' themselves. These patients wanted to live as long as they could experience life. They did not, however, want to prolong their deaths. As a physician, I resent the term 'physician-assisted suicide.' I have never felt I was assisting a suicidal patient, but rather aiding a patient with his or her end of life choice."

***Peter Goodwin, M.D. Professor Emeritus,
Dept. of Family Medicine,
Oregon Health Science University***

"Most ... patients suffering from incurable cancer or other terminal diseases want the right to have some measure of control, or autonomy, at the end of their lives. Aid In Dying places that power to choose in the hands of the terminally ill patient. I believe it is our responsibility to listen to our patients; and if medically, morally and legally possible provide them with the comfort they request. It should be the patient's decision and physicians should honor patients' autonomy and choice. Dying is a private experience, and should be in the hands of the patient with support from the physician."

***C. Ronald Koons, M.D., Chair,
Ethics Committee, UC Irvine Medical Center***

Polls Show Physicians' Support



www.compassionandchoices.org/montana

The Case for **Terminal Patients' End-of-Life Choice**

Mentally competent, terminally ill patients have the right to choose aid in dying: to request a prescription for medication from their doctors which they can ingest to bring about a peaceful death. Doctors, patients, religious leaders, the Montana public and a Montana Supreme Court decision, as well as the success of the Oregon experience support this right of terminal patients in making their own end-of-life decisions.

Patients

The right of terminal patients to make their own end-of-life decisions is based on the simple premise that people should be free. Specifically, that when they are terminally ill and death is near, they should be free to decide whether to prolong life as long as possible, or to end their suffering more quickly. Terminally ill patients, mostly suffering from cancer and other incurable diseases, want the right to have some measure of control at the end of their lives. The right to request aid in dying places the power to choose solely in the hands of the terminally ill patient

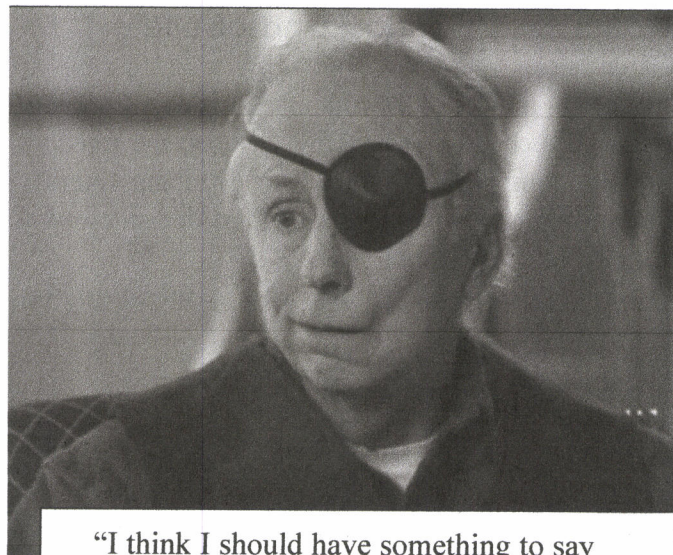
Doctors

"Two of the fundamental bioethical principles that guide a physician's interactions with patients are respect for the patients' fundamental right of self-determination and respect for the patients' interests. Physicians have an ethical obligation to relieve pain and suffering and to promote the dignity and autonomy of dying patients in their care."

*Dr. Stephen Speckart,
Missoula cancer specialist*

"Montanans should know this choice is available, and physicians should know they can provide aid in dying. Patients, families, doctors and hospices are beginning to integrate this into their practice and the Montana Medical Association should further the discussion among physicians and help establish the standard of care for aid in dying."

*Dr. Deric Weiss, a palliative care and
ethics expert at the Billings Clinic*



"I think I should have something to say about my ending. It's my decision to make, and it's a great comfort to know I can ask my doctor to honor my choice to die with dignity."

*Steve Johnson
Helena cancer patient*

Montana Supreme Court

Our Montana Supreme Court decided, in *Baxter v. Montana*, that end-of-life medical choices are private, between you and your doctor, and that adults can request medication to bring about a peaceful death. The Montana Supreme Court ruled that terminally ill Montanans have the right to choose aid in dying under state law.

"...we find no indication in Montana law that physician aid in dying provided to terminally ill, mentally competent adult patients is against public policy."

*Montana Supreme Court
Baxter v. Montana*

Religious Leaders

Free will, love, and compassion are each an article that Christians should employ in making any decision that affects oneself and/or others. How any individual approaches a decision and what that individual utilizes for his/her decision-making process is left to that person to decide."

*Rev. John C. Board,
Episcopal Deacon, Helena*

Montanans Support End-of-Life Choice

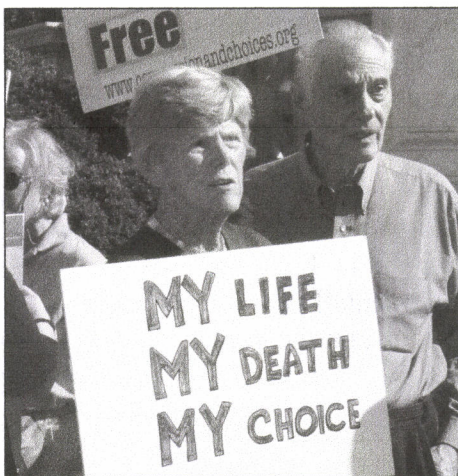
A strong majority of Montanans support patients' end-of-life choice because they cherish the freedom and autonomy it protects. 65% of Montana voters support the Montana Supreme Court decision granting end-of-life choice.

*Compassion & Choices public opinion survey,
January 2010*

Oregon Experience is a Documented Success

Oregon's aid-in-dying law has been a tremendous success. In its first twelve years, only 460 dying people self-administered, medication to hasten their imminent death, a tribute to the law's stringent safeguards.

The Oregon law is also credited with increasing referrals to hospice care, improving the quality of pain management services, and encouraging physicians and families to have early and honest discussions about honoring the wishes of dying patients.



Myths:

Why Opponents are Wrong

Opponents consistently make false arguments about physician aid in dying.

- *They deliberately use the scary and misleading word "suicide" to imply that the law would somehow cause the deaths of healthy people.*

Aid in dying, as set down by the Montana Supreme Court, applies only to people whose deaths are already imminent.

- *They claim that it would allow doctors to "kill" people.*

Only those already dying can request a prescription and then choose to self administer medication to hasten their deaths when they feel their suffering has become unbearable.

- *They claim it singles out seniors and the disabled as people of lesser value.*

Those groups are treated the same as all others; their freedom is protected should they become terminally ill. The Montana Supreme Court decision only allows aid in dying for terminally ill adults.

"We believe that people with disabilities, who have struggled to control their own lives and bodies, must be allowed to maintain this control and autonomy throughout their lives, and especially at its end."

*Autonomy Disability Rights
Organization*

- *They claim greedy HMOs will choose to reduce costs by encouraging death.*

Only a patient can make the request and must control the process from beginning to end.

Patients must take their medication themselves.

www.compassionandchoices.org/montana

1-800 247-7421



Legalizing euthanasia or assisted suicide: the illusion of safeguards and controls

J. Pereira MBChB MSc

ABSTRACT

Euthanasia or assisted suicide—and sometimes both—have been legalized in a small number of countries and states. In all jurisdictions, laws and safeguards were put in place to prevent abuse and misuse of these practices. Prevention measures have included, among others, explicit consent by the person requesting euthanasia, mandatory reporting of all cases, administration only by physicians (with the exception of Switzerland), and consultation by a second physician.

The present paper provides evidence that these laws and safeguards are regularly ignored and transgressions are not prosecuted. For example, about 900 people annually are administered lethal substances without having given explicit consent, and in one jurisdiction, almost 50% of cases of euthanasia are not reported. Increased tolerance of transgressions in societies with such laws represents a social “slippery slope,” as do changes to the laws and criteria that followed legalization. Although the initial intent was to limit euthanasia and assisted suicide to a last-resort option for a very small number of terminally ill people, some jurisdictions now extend the practice to newborns, children, and people with dementia. A terminal illness is no longer a prerequisite. In the Netherlands, euthanasia for anyone over the age of 70 who is “tired of living” is now being considered. Legalizing euthanasia and assisted suicide therefore places many people at risk, affects the values of society over time, and does not provide controls and safeguards.

KEY WORDS

Euthanasia, physician-assisted suicide

1. INTRODUCTION

Euthanasia is generally defined as the act, undertaken only by a physician, that intentionally ends the

life of a person at his or her request^{1,2}. The physician therefore administers the lethal substance. In physician-assisted suicide (PAS) on the other hand, a person self-administers a lethal substance prescribed by a physician.

To date, the Netherlands, Belgium, and Luxembourg have legalized euthanasia^{1,2}. The laws in the Netherlands and Luxembourg also allow PAS. In the United States, the states of Oregon and Washington legalized PAS in 1997 and 1999 respectively, but euthanasia remains illegal³. The situation in the state of Montana is currently unclear; a bill legalizing PAS was passed by the state legislature in 2010, but was recently defeated by the state’s Senate Judiciary Committee.

In the Netherlands, euthanasia and PAS were formally legalized in 2001 after about 30 years of public debate¹. Since the 1980s, guidelines and procedures for performing and controlling euthanasia have been developed and adapted several times by the Royal Dutch Medical Association in collaboration with that country’s judicial system. Despite opposition, including that from the Belgian Medical Association, Belgium legalized euthanasia in 2002 after about 3 years of public discourse that included government commissions. The law was guided by the Netherlands and Oregon experiences, and the public was assured that any defects in the Dutch law would be addressed in the Belgian law. Luxembourg legalized euthanasia and PAS in 2009. Switzerland is an exception, in that assisted suicide, although not formally legalized, is tolerated as a result of a loophole in a law dating back to the early 1900s that decriminalizes suicide. Euthanasia, however, is illegal⁴. A person committing suicide may do so with assistance as long as the assistant has no selfish motives and does not stand to gain personally from the death. Unlike other jurisdictions that require euthanasia or assisted suicide to be performed only by physicians, Switzerland allows non-physicians to assist suicide.

In all these jurisdictions, safeguards, criteria, and procedures were put in place to control the practices, to ensure societal oversight, and to prevent euthanasia

and PAS from being abused or misused⁵. Some criteria and procedures are common across the jurisdictions; others vary from country to country^{5,6}. The extent to which these controls and safeguards have been able to control the practices and to avoid abuse merits closer inspection, particularly by jurisdictions contemplating the legalization of euthanasia and PAS. The present paper explores the effectiveness of the safeguards and the “slippery slope” phenomenon.

2. SAFEGUARDS AND THEIR EFFECTIVENESS

2.1 Voluntary, Written Consent

In all jurisdictions, the request for euthanasia or PAS has to be voluntary, well-considered, informed, and persistent over time. The requesting person must provide explicit written consent and must be competent at the time the request is made. Despite those safeguards, more than 500 people in the Netherlands are euthanized involuntarily every year. In 2005, a total of 2410 deaths by euthanasia or PAS were reported, representing 1.7% of all deaths in the Netherlands. More than 560 people (0.4% of all deaths) were administered lethal substances without having given explicit consent⁷. For every 5 people euthanized, 1 is euthanized without having given explicit consent. Attempts at bringing those cases to trial have failed, providing evidence that the judicial system has become more tolerant over time of such transgressions⁵.

In Belgium, the rate of involuntary and non-voluntary euthanasia deaths (that is, without explicit consent) is 3 times higher than it is in the Netherlands^{8,9}. (“Involuntary euthanasia” refers to a situation in which a person possesses the capacity but has not provided consent, and “non-voluntary euthanasia,” to a situation in which a person is unable to provide consent for reasons such as severe dementia or coma). A recent study found that in the Flemish part of Belgium, 66 of 208 cases of “euthanasia” (32%) occurred in the absence of request or consent¹⁰. The reasons for not discussing the decision to end the person’s life and not obtaining consent were that patients were comatose (70% of cases) or had dementia (21% of cases). In 17% of cases, the physicians proceeded without consent because they felt that euthanasia was “clearly in the patient’s best interest” and, in 8% of cases, that discussing it with the patient would have been harmful to that patient. Those findings accord with the results of a previous study in which 25 of 1644 non-sudden deaths had been the result of euthanasia without explicit consent⁸.

Some proponents of euthanasia contend that the foregoing figures are misrepresentative, because many people may have at some time in their lives expressed a wish for or support of euthanasia, albeit not formally. The counterargument is that the legal requirement of explicit written consent is important if abuse and misuse are to be avoided. After all,

written consent has become essential in medical research when participants are to be subjected to an intervention, many of which pose far lesser mortality risks. Recent history is replete with examples of abuse of medical research in the absence of explicit informed consent.

2.2 Mandatory Reporting

Reporting is mandatory in all the jurisdictions, but this requirement is often ignored^{11,12}. In Belgium, nearly half of all cases of euthanasia are not reported to the Federal Control and Evaluation Committee¹³. Legal requirements were more frequently not met in unreported cases than in reported cases: a written request for euthanasia was more often absent (88% vs. 18%), physicians specialized in palliative care were consulted less often (55% vs. 98%), and the drugs were more often administered by a nurse (41% vs. 0%). Most of the unreported cases (92%) involved acts of euthanasia, but were not perceived to be “euthanasia” by the physician. In the Netherlands, at least 20% of cases of euthanasia go unreported⁷. That number is probably conservative because it represents only cases that can be traced; the actual number may be as high as 40%¹⁴. Although reporting rates have increased from pre-legalization in 2001, 20% represents several hundred people annually.

2.3 Only by Physicians

The involvement of nurses gives cause for concern because all the jurisdictions, with the exception of Switzerland, require that the acts be performed only by physicians. In a recent study in Flanders, 120 nurses reported having cared for a patient who received life-ending drugs without explicit request¹⁵. Nurses performed the euthanasia in 12% of the cases and in 45% of the cases without explicit consent. In many instances, the physicians were absent. Factors significantly associated with a nurse administering the life-ending drugs included the nurse being a male working in a hospital and the patient being over 80 years of age.

2.4 Second Opinion and Consultation

All jurisdictions except for Switzerland require a consultation by a second physician to ensure that all criteria have been met before proceeding with euthanasia or PAS. In Belgium, a third physician has to review the case if the person’s condition is deemed to be non-terminal. The consultant must be independent (not connected with the care of the patient or with the care provider) and must provide an objective assessment. However, there is evidence from Belgium, the Netherlands, and Oregon that this process is not universally applied^{10,13}. In the Netherlands, for example, a consultation was not sought in 35%

of cases of involuntary euthanasia⁷. In 1998 in the Netherlands, 25% of patients requesting euthanasia received psychiatric consultation; in 2010 none did¹⁶. Moreover, non-reporting seems to be associated with a lack of consultation by a second doctor¹⁴.

In Oregon, a physician member of a pro-assisted-suicide lobby group provided the consultation in 58 of 61 consecutive cases of patients receiving PAS in Oregon¹⁷. This raises concerns about the objectivity of the process and the safety of the patients, and raises questions about the influence of bias on the part of these physicians on the process.

Networks of physicians trained to provide the consultation role when euthanasia is sought have been established in the Netherlands (Support and Consultation on Euthanasia in the Netherlands) and Belgium [Life End Information Forum (LEIF)]¹⁸. Their role includes ensuring that the person is informed of all options, including palliative care. However, most LEIF physicians have simply followed a 24-hour theoretical course, of which only 3 hours are related to palliative care, hardly sufficient to enable a LEIF member to provide adequate advice on complex palliative care needs¹⁹. The development of expertise in palliative care, as in any other specialty, requires a considerable amount of time. In the United Kingdom, it involves a 4-year residency program, and in Australia and the United States, 3 years.

Oregon requires that a patient be referred to a psychiatrist or psychologist for treatment if the prescribing or consulting physician is concerned that the patient's judgment is impaired by a mental disorder such as depression. In 2007, none of the people who died by lethal ingestion in Oregon had been evaluated by a psychiatrist or a psychologist²⁰, despite considerable evidence that, compared with non-depressed patients, patients who are depressed are more likely to request euthanasia and that treatment for depression will often result in the patient rescinding the request²¹⁻²³. In a study of 200 terminally ill cancer patients, for example, the prevalence of depressive syndromes was 59% among patients with a pervasive desire to die, but only 8% among patients without such a desire²¹. Despite that finding, many health professionals and family members of patients in Oregon who pursue PAS generally do not believe that depression influences the choice for hastened death²⁴.

A recent Oregon-based study demonstrated that some depressed patients are slipping through the cracks²⁵. Among terminally ill patients who received a prescription for a lethal drug, 1 in 6 had clinical depression. Of the 18 patients in the study who received a prescription for the lethal drug, 3 had major depression, and all of them went on to die by lethal ingestion, but had been assessed by a mental health specialist.

There is evidence, therefore, that safeguards are ineffective and that many people who should not be euthanized or receive PAS are dying by those means.

Of concern, too, is the fact that transgressions of the laws are not prosecuted and that the tolerance level for transgressions of the laws has increased. Moreover, as the next section will explore, the boundaries of what constitutes "good" practices with respect to euthanasia and PAS continue to change, and some of the current practices would just a few decades ago have been considered unacceptable in those jurisdictions that have legalized the practices.

3. THE "SLIPPERY SLOPE" ARGUMENT

The "slippery slope" argument, a complex legal and philosophical concept, generally asserts that one exception to a law is followed by more exceptions until a point is reached that would initially have been unacceptable. The "slippery slope" argument has, however, several interpretations²⁶, some of which are not germane to the euthanasia discussion. The interpretations proposed by Keown in 2002²⁷ appear very relevant, however. He refers to these collectively as a "practical slippery slope," although the term "social slippery slope" may be more applicable. The first interpretation postulates that acceptance of one sort of euthanasia will lead to other, even less acceptable, forms of euthanasia. The second contends that euthanasia and PAS, which originally would be regulated as a last-resort option in only very select situations, could, over time, become less of a last resort and be sought more quickly, even becoming a first choice in some cases.

The circumvention of safeguards and laws, with little if any prosecution, provides some evidence of the social slippery slope phenomenon described by Keown^{5,28}. Till now, no cases of euthanasia have been sent to the judicial authorities for further investigation in Belgium. In the Netherlands, 16 cases (0.21% of all notified cases) were sent to the judicial authorities in the first 4 years after the euthanasia law came into effect; few were investigated, and none were prosecuted⁵. In one case, a counsellor who provided advice to a non-terminally ill person on how to commit suicide was acquitted²⁹. There has therefore been an increasing tolerance toward transgressions of the law, indicating a change in societal values after legalization of euthanasia and assisted suicide.

In the 1987 preamble to its guidelines for euthanasia, the Royal Dutch Medical Association had written "If there is no request from the patient, then proceeding with the termination of his life is [juristically] a matter of murder or killing, and not of euthanasia." By 2001, the association was supportive of the new law in which a written wish in an advance directive for euthanasia would be acceptable, and it is tolerant of non-voluntary and involuntary euthanasia^{7,30,31}. However, basing a request on an advance directive or living will may be ethically problematic because the request is not contemporaneous with the act and

may not be evidence of the will of the patient at the time euthanasia is carried out.

Initially, in the 1970s and 1980s, euthanasia and PAS advocates in the Netherlands made the case that these acts would be limited to a small number of terminally ill patients experiencing intolerable suffering and that the practices would be considered last-resort options only. By 2002, euthanasia laws in neither Belgium nor the Netherlands limited euthanasia to persons with a terminal disease (recognizing that the concept of "terminal" is in itself open to interpretation and errors). The Dutch law requires only that a person be "suffering hopelessly and unbearably." "Suffering" is defined as both physical and psychological, which includes people with depression. In Belgium, the law ambiguously states that the person "must be in a hopeless medical situation and be constantly suffering physically or psychologically." By 2006, the Royal Dutch Medical Association had declared that "being over the age of 70 and tired of living" should be an acceptable reason for requesting euthanasia³². That change is most concerning in light of evidence of elder abuse in many societies, including Canada³³, and evidence that a large number of frail elderly people and terminally ill patients already feel a sense of being burden on their families and society, and a sense of isolation. The concern that these people may feel obliged to access euthanasia or PAS if it were to become available is therefore not unreasonable, although evidence to verify that concern is not currently available.

In Oregon, although a terminal illness with a prognosis of less than 6 months to live has to be present, intolerable suffering that cannot be relieved is not a basic requirement (again recognizing that the concept of "intolerable suffering" is in itself ambiguous). This definition enables physicians to assist in suicide without inquiring into the source of the medical, psychological, social, and existential concerns that usually underlie requests for assisted suicide. Physicians are required to indicate that palliative care is a feasible alternative, but are not required to be knowledgeable about how to relieve physical or emotional suffering.

Until 2001, the Netherlands allowed only adults access to euthanasia or PAS. However, the 2001 law allowed for children aged 12–16 years to be euthanized if consent is provided by their parents, even though this age group is generally not considered capable of making such decisions⁵. The law even allows physicians to proceed with euthanasia if there is disagreement between the parents. By 2005, the Groningen Protocol, which allows euthanasia of newborns and younger children who are expected to have "no hope of a good quality of life," was implemented^{34,35}. In 2006, legislators in Belgium announced their intention to change the euthanasia law to include infants, teenagers, and people with dementia or Alzheimer disease³⁶.

In Belgium, some critical care specialists have opted to ignore the requirement that, in the case of non-terminally-ill patients, an interval of 1 month is required from the time of a first request until the time that euthanasia is performed. One specialist reported that, in his unit, the average time from admission until euthanasia was performed for patients that seemed to be in a "hopeless" situation was about 3.5 days³⁷. Beneficence, this specialist argued, was the overriding principle.

Initially, euthanasia in the Netherlands was to be a last-resort option in the absence of other treatment options. Surprisingly, however, palliative care consultations are not mandatory in the jurisdictions that allow euthanasia or assisted suicide, even though uncontrolled pain and symptoms remain among the reasons for requesting euthanasia or PAS³⁸. Requests by the Belgian palliative care community to include an obligatory palliative care consultation ("palliative filter") were denied¹⁹. From 2002 to 2007 in Belgium, a palliative care physician was consulted (second opinion) in only 12% of all cases of euthanasia³¹. Palliative care physicians and teams were not involved in the care of more than 65% of cases receiving euthanasia. Moreover, the rates of palliative care involvement have been decreasing. In 2002, palliative care teams were consulted in 19% of euthanasia cases, but by 2007 such involvement had declined to 9% of cases. That finding contradicts claims that in Belgium, legalization has been accompanied by significant improvements in palliative care in the country³⁹. Other studies have reported even lower palliative care involvement^{8,13}. It must be noted that legalization of euthanasia or PAS has not been required in other countries such as the United Kingdom, Australia, Ireland, France, and Spain, in which palliative care has developed more than it has in Belgium and the Netherlands.

The usefulness of a single palliative care assessment has been challenged—even when it is an obligatory requirement, as is the case at the University Hospital of the Canton of Vaud, Lausanne, Switzerland (the first hospital to allow, in 2005, assisted suicide in Switzerland⁴⁰)⁴¹. Among U.K. palliative care physicians, 63% feel that a single assessment is insufficient to fully evaluate and address the needs of a person requesting euthanasia or PAS⁴². A similar number of U.K. psychiatrists have expressed similar concerns^{43,44}, and only 6% of Oregon psychiatrists are comfortable providing consultations for patients requesting PAS⁴⁵.

Originally, it was the view of the Supreme Court of the Netherlands, the Royal Dutch Medical Association, and the ministers of Justice and Health that euthanasia would not be an option in situations in which alternative treatments were available but the patient had refused them. When this view conflicted with the accepted ethical principle that patients are allowed to refuse a treatment option, the law was

altered to allow access to euthanasia even if the person refused another available option such as palliative or psychiatric care. One consequence of the change is that, the appropriateness of suicide prevention programs may begin to be questioned, because people wanting to commit suicide should, on the basis of autonomy and choice, have the same rights as those requesting euthanasia.

There are other examples that a "social slippery slope" phenomenon does indeed exist. In Switzerland in 2006, the university hospital in Geneva reduced its already limited palliative care staff (to 1.5 from 2 full-time physicians) after a hospital decision to allow assisted suicide; the community-based palliative care service was also closed (JP. Unpublished data). Of physicians in the Netherlands, 15% have expressed concern that economic pressures may prompt them to consider euthanasia for some of their patients; a case has already been cited of a dying patient who was euthanized to free a hospital bed⁴⁶. There is evidence that attracting doctors to train in and provide palliative care was made more difficult because of access to euthanasia and PAS, perceived by some to present easier solutions, because providing palliative care requires competencies and emotional and time commitments on the part of the clinician^{47,48}. At the United Kingdom's parliamentary hearings on euthanasia a few years ago, one Dutch physician asserted that "We don't need palliative medicine, we practice euthanasia"⁴⁹. Compared with euthanasia cases, cases without an explicit request were more likely to have a shorter length of treatment of the terminal illness¹⁰.

Advocates of euthanasia have largely ignored these concerns about the "social slippery slope" and have opted to refute the "slippery slope" argument on the basis that legalizing euthanasia and PAS has not led to exponential increases in cases of euthanasia or PAS or in a disproportionate number of vulnerable persons being euthanized^{7,26,30}. However, there is evidence that challenges those assertion.

The number of deaths by euthanasia in Flanders has doubled since 1998³⁰. Of the total deaths in this Flemish-speaking part of Belgium (population 6 million), 1.1%, 0.3%, and 1.9% occurred by euthanasia in 1998, 2001, and 2007 respectively³⁰ (about 620, 500, and 1040 people respectively in those years). The requirement of the law to report euthanasia cases (aided by laxity in prosecuting cases that fall outside the requirement) may explain some, but not all, of the increase³¹. Chambaere *et al.*¹⁰ reported in the *Canadian Medical Association Journal* that in Belgium, euthanasia without consent had decreased from 3.2% in 1998 to 1.8% in 2007. But a closer review of the original study shows that the rate had declined to 1.5% in 2001 and then increased again to 1.8% in 2007³⁰.

In Holland, the overall rate of euthanasia was 1.7% of all deaths in 2005, down from 2.4% and

2.6% in 2001 and 1995 respectively, but no different from 1990 when the rate was 1.7%⁷. However, the Dutch government's official statistics indicate a rise of 13% in 2009 compared with 2008; euthanasia now accounts for 2% of all deaths. Given the increasing numbers, interest in developing facilities that provide euthanasia (similar to those of the Swiss pro-assisted suicide group Dignitas) has recently been increasing. In Oregon, although the number of cases of PAS remain very small relative to the population, the rate has been increasing: 24 prescriptions were written in 1998 (16 of which led to deaths by PAS), 67 prescriptions in 2003 (43 of which led to deaths by PAS), and 89 in 2007⁵⁰.

In Belgium, the rates of involuntary and non-voluntary euthanasia have decreased; together they accounted for 3.2%, 1.5%, and 1.8% of all deaths in 1998, 2001, and 2007 respectively (1800, 840, and, 990 people respectively in those years)³⁰. In the Netherlands, the rate decreased from 0.7% in 2001 to 0.4% in 2005⁷. The actual rate is probably higher, given the large number of unreported cases. Notwithstanding the decrease, the rates are perturbing.

Battin *et al.*⁵¹ examined data from Oregon and the Netherlands and concluded, as have others³⁰, that there was no evidence that vulnerable people, except for people with AIDS, are euthanized disproportionately more. "Vulnerable" was defined in that study as individuals who are elderly, female, uninsured, of low educational status, poor, physically disabled or chronically ill, younger than the age of majority, affected with psychiatric illnesses including depression, or of a racial or ethnic minority. Finlay and George challenged the study on the basis that vulnerability to PAS or euthanasia cannot be categorized simply by reference to race, sex, or other socioeconomic status. Other characteristics, such as emotional state, reaction to loss, personality type, and the sense of being a burden are also important⁵². Patients are also vulnerable to the level of training and experience that their physicians have in palliative care and to the personal views of their physicians about the topic. For example, one study showed that the more physicians know about palliative care, the less they favour euthanasia and PAS⁵³.

Two recent studies further contradict the findings by Battin and colleagues. Chambaere *et al.* found that voluntary and involuntary euthanasia occurred predominantly among patients 80 years of age or older who were in a coma or who had dementia¹⁰. According to them, these patients "fit the description of vulnerable patient groups at risk of life-ending without request." They concluded that "attention should therefore be paid to protecting these patient groups from such practices." In another study, two of the factors significantly associated with a nurse administering life-ending drugs were the absence of an explicit request from the patient and the patient being 80 years of age or older¹⁵.

4. THE RESPONSE

What can be done, then, when the best of palliative care is unable to address suffering?

Zylicz, a palliative care specialist who has worked extensively in the Netherlands with people requesting euthanasia and PAS, provides a taxonomy to understand the reasons underlying the requests and provides stepping stones for addressing the requests. The requests can be classified into five categories (summarized by the abbreviation ABCDE)⁵⁴:

- Being afraid of what the future may hold
- Experiencing burnout from unrelenting disease
- Having the wish and need for control
- Experiencing depression
- Experiencing extremes of suffering, including refractory pain and other symptoms

Strategies are available to begin to address severe refractory symptoms, to treat depression, and to deal with the fear that some people have of what the future with a terminal disease may hold. Approximately 10%–15% of pain and other physical symptoms (such as dyspnea and agitated delirium) cannot be controlled with first- and second-line approaches and become refractory. For these symptoms, there is the option of palliative sedation. Palliative sedation is defined as “the monitored use of medications intended to induce a state of decreased or absent awareness (unconsciousness) in order to relieve the burden of otherwise intractable suffering in a manner that is ethically acceptable to the patient, family and health-care providers in patients that are imminently dying”⁵⁵. Its intent is not to hasten death, which differentiates it from euthanasia. The goal is to achieve comfort at the lowest dose of sedative possible (usually with midazolam infusion, not with opioids) and at the lightest level of sedation. Some patients therefore achieve comfort at light levels of sedation, allowing them to continue interacting with family; in others, comfort is achieved only at deep levels of sedation.

Studies have shown that losing a sense of dignity and hope and taking on a sense of burden prompt some people to seek euthanasia and PAS^{21–23,56}. Strategies to improve the sense of dignity, based on empirical studies that have explored the concept of dignity within palliative care, have been shown to work⁵⁷. Similar strategies need to be developed in the areas of hope and burden.

Given effective palliation, including palliative sedation for patients with refractory symptoms, the only remaining issue is that of legalizing “on-demand” euthanasia and PAS when there is no terminal disease or when the person is tired of living or has a mental illness. Legalizing euthanasia and assisted suicide in these circumstances is most concerning and would have major implications over time, including changing a society’s values and making suicide prevention

programs redundant because people wishing to commit suicide would then be entitled to do so.

5. SUMMARY

In 30 years, the Netherlands has moved from euthanasia of people who are terminally ill, to euthanasia of those who are chronically ill; from euthanasia for physical illness, to euthanasia for mental illness; from euthanasia for mental illness, to euthanasia for psychological distress or mental suffering—and now to euthanasia simply if a person is over the age of 70 and “tired of living.” Dutch euthanasia protocols have also moved from conscious patients providing explicit consent, to unconscious patients unable to provide consent. Denying euthanasia or PAS in the Netherlands is now considered a form of discrimination against people with chronic illness, whether the illness be physical or psychological, because those people will be forced to “suffer” longer than those who are terminally ill. Non-voluntary euthanasia is now being justified by appealing to the social duty of citizens and the ethical pillar of beneficence. In the Netherlands, euthanasia has moved from being a measure of last resort to being one of early intervention. Belgium has followed suit³⁷, and troubling evidence is emerging from Oregon specifically with respect to the protection of people with depression and the objectivity of the process.

The United Nations has found that the euthanasia law in the Netherlands is in violation of its *Universal Declaration of Human Rights* because of the risk it poses to the rights of safety and integrity for every person’s life. The UN has also expressed concern that the system may fail to detect and to prevent situations in which people could be subjected to undue pressure to access or to provide euthanasia and could circumvent the safeguards that are in place.

Autonomy and choice are important values in any society, but they are not without limits. Our democratic societies have many laws that limit individual autonomy and choice so as to protect the larger community. These include, among many others, limits on excessive driving speeds and the obligation to contribute by way of personal and corporate income taxes. Why then should different standards on autonomy and choice apply in the case of euthanasia and PAS?

Legislators in several countries and jurisdictions have, in just the last year, voted against legalizing euthanasia and PAS in part because of the concerns and evidence described in this paper. Those jurisdictions include France, Scotland, England, South Australia, and New Hampshire. They have opted to improve palliative care services and to educate health professionals and the public.

6. CONFLICT OF INTEREST DISCLOSURES

The author has no financial conflict of interest to declare.

7. REFERENCES

1. Deliens L, van der Wal G. The euthanasia law in Belgium and the Netherlands. *Lancet* 2003;362:1239–40.
2. Watson R. Luxembourg is to allow euthanasia. *BMJ* 2009;338:b1248.
3. Steinbrook R. Physician-assisted death—from Oregon to Washington State. *N Engl J Med* 2008;359:2513–15.
4. Hurst S, Mauron A. Assisted suicide and euthanasia in Switzerland: allowing a role for non-physicians. *BMJ* 2003;326:271–3.
5. Smets T, Bilsen J, Cohen J, Rurup ML, De Keyser E, Deliens L. The medical practice of euthanasia in Belgium and the Netherlands: legal notification, control and evaluation procedures. *Health Policy* 2009;90:181–7.
6. Caplan AL, Snyder L, Faber–Langendoen K. The role of guidelines in the practice of physician-assisted suicide. University of Pennsylvania Center for Bioethics Assisted Suicide Consensus Panel. *Ann Intern Med* 2000;132:476–81.
7. van der Heide A, Onwuteaka–Philipsen BD, Rurup ML, et al. End-of-life practices in the Netherlands under the *Euthanasia Act*. *N Engl J Med* 2007;356:1957–65.
8. Van den Block L, Deschepper R, Bilsen J, Bossuyt N, Van Casteren V, Deliens L. Euthanasia and other end of life decisions and care provided in final three months of life: nationwide retrospective study in Belgium. *BMJ* 2009;339:b2772.
9. Van den Block L, Deschepper R, Bilsen J, Bossuyt N, Van Casteren V, Deliens L. Euthanasia and other end-of-life decisions: a mortality follow-back study in Belgium. *BMC Public Health* 2009;9:79.
10. Chambaere K, Bilsen J, Cohen J, Onwuteaka–Philipsen BD, Mortier F, Deliens L. Physician-assisted deaths under the euthanasia law in Belgium: a population-based survey. *CMAJ* 2010;182:895–901.
11. Prager LO. Details emerge on Oregon's first assisted suicides. *American Medical News* September 7, 1998.
12. Rurup M, Buiting HM, Pasman RHW, van der Maas PJ, van der Heide A, Onwuteaka–Philipsen BD. The reporting rate of euthanasia and physicians-assisted suicide. A study of the trends. *Med Care* 2008;46:1198–202.
13. Smets T, Bilsen J, Cohen J, Rurup ML, Mortier F, Deliens L. Reporting of euthanasia in medical practice in Flanders, Belgium: cross sectional analysis of reported and unreported cases. *BMJ* 2010;341:c5174.
14. Onwuteaka–Philipsen B, van der Heide A, Muller MT, et al. Dutch experience of monitoring euthanasia. *BMJ* 2005;331:691–3.
15. Inghelbrecht E, Bilsen J, Mortier F, Deliens L. The role of nurses in physician-assisted deaths in Belgium. *CMAJ* 2010;182:905–10.
16. Hendin H. Seduced by death: doctors, patients and the Dutch cure. *Issues Law Med* 1994;10:123–68.
17. Hendin H, Foley K. Physician-assisted suicide in Oregon: a medical perspective. *Mich Law Rev* 2008;106:1613–40.
18. Van Wesemael Y, Cohen J, Onwuteaka–Philipsen BD, Bilsen J, Deliens L. Establishing specialized health services for professional consultation in euthanasia: experiences in the Netherlands and Belgium. *BMC Health Serv Res* 2009;9:220.
19. Gamaster N, Van den Eynden B. The relationship between palliative care and legalized euthanasia in Belgium. *J Palliat Med* 2009;12:589–91.
20. Oregon, Department of Human Services (DHS). *Death with Dignity Act*. Portland, OR: DHS; 2007. [Available online at: www.oregon.gov/DHS/ph/pas/ors.shtml; cited February 17, 2011]
21. Chochinov HM, Wilson KG, Enns M, et al. Desire for death in the terminally ill. *Am J Psychiatry* 1995;152:1185–91.
22. Emanuel EJ, Fairclough DL, Emanuel LL. Attitudes and desires related to euthanasia and physician-assisted suicide among terminally ill patients and their caregivers. *JAMA* 2000;284:2460–8.
23. Breitbart W, Rosenfeld B, Pessin H, et al. Depression, hopelessness, and desire for hastened death in terminally ill patients with cancer. *JAMA* 2000;284:2907–11.
24. Ganzini L, Goy ER, Dobscha SK. Why Oregon patients request assisted death: family members' views. *J Gen Intern Med* 2008;23:154–7.
25. Ganzini L, Goy ER, Dobscha SK. Prevalence of depression and anxiety in patients requesting physicians' aid in dying: cross sectional survey. *BMJ* 2008;337:a1682.
26. Smith SW. Evidence for the practical slippery slope in the debate on physician assisted suicide and euthanasia. *Med Law Review* 2005;13:17–44.
27. Keown J. *Euthanasia, Ethics, and Public Policy: An Argument Against Legalisation*. Cambridge, U.K.: Cambridge University Press; 2002.
28. Sheldon T. Dutch GP found guilty of murder faces no penalty. *BMJ* 2001;322:509.
29. Sheldon T. Dutch court acquits suicide counsellor of breaking the law. *BMJ* 2007;334:228–9.
30. Bilsen J, Cohen J, Chambaere K, et al. Medical end-of-life practices under the euthanasia law in Belgium. *N Engl J Med* 2009;361:1119–21.
31. Smets T, Bilsen J, Cohen J, Rurup ML, Deliens L. Legal euthanasia in Belgium: characteristics of all reported euthanasia cases. *Med Care* 2010;48:187–92.
32. Sheldon T. Dutch euthanasia law should apply to patients “suffering through living,” report says. *BMJ* 2005;330:61.
33. McAlpine CH. Elder abuse and neglect. *Age Ageing* 2008;37:132–3.
34. Verhagen AA, Sol JJ, Brouwer OF, Sauer PJ. Deliberate termination of life in newborns in the Netherlands; review of all 22 reported cases between 1997 and 2004 [Dutch]. *Ned Tijdschr Geneesk* 2005;149:183–8.
35. Sheldon T. Dutch law leads to confusion over when to use life ending treatment in suffering newborns. *BMJ* 2009;339:b5474.
36. Burgermeister J. Doctor reignites euthanasia row in Belgium after mercy killing. *BMJ* 2006;332:382.
37. Cohen–Almagor R. Belgian euthanasia law: a critical analysis. *J Med Ethics* 2009;35:436–9.
38. Wilson K, Chochinov HM, McPherson CJ, et al. Desire for euthanasia or physician-assisted suicide in palliative cancer care. *Health Psychol* 2007;26:314–23.
39. Bernheim J, Deschepper R, Distelmans W, Mullie A, Bilsen J, Deliens L. Development of palliative care and legalisation of euthanasia: antagonism or synergy? *BMJ* 2008;336:864–7.
40. Wasserfallen JB, Chiolo R, Stiefel F. Assisted suicide in an acute care hospital: 18 months' experience. *Swiss Med Wkly* 2008;138:239–42.

41. Pereira J, Laurent P, Cantin B, Petremand D, Currat T. The response of a Swiss university hospital's palliative care consult team to assisted suicide within the institution. *Palliat Med* 2008;22:659–67.
42. Association for Palliative Medicine of Great Britain and Ireland. *Submission from the Ethics Committee to the Select Committee of the House of Lords on the Assisted Dying Bill*. Southampton, U.K.: Association for Palliative Medicine of Great Britain and Ireland; 2004.
43. Kelly BD, McLoughlin DM. Euthanasia, assisted suicide and psychiatry: a Pandora's box. *Br J Psychiatry* 2002;181:278–9.
44. Shah N, Warner J, Blizzard B, King N. National survey of U.K. psychiatrists' attitudes to euthanasia. *Lancet* 1998;352:1360.
45. Harvath TA, Miller LL, Smith KA, Clark LD, Jackson A, Ganzini L. Dilemmas encountered by hospice workers when patients wish to hasten death. *J Hosp Palliat Nurs* 2006;8:200–9.
46. George RJD, Finlay IG, Jeffrey D. Legalised euthanasia will violate the rights of vulnerable patients. *BMJ* 2005;331:684–5.
47. Euthanasia [letter]. *Lancet* 1991;338:1150.
48. Zylicz Z. Hospice in Holland: the story behind the blank spot. *Am J Hosp Palliat Care* 1993;10:30–4.
49. United Kingdom. *Human Rights Act 1998*. Schedule 1, Article 2.1. London, U.K.: United Kingdom; 1998. [Available online at: www.legislation.gov.uk/ukpga/1998/42/schedule/1; cited February 17, 2011]
50. Oregon, Department of Human Services (DHS), Office of Disease Prevention and Epidemiology. *Sixth Annual Report on Oregon's Death with Dignity Act*. Portland, OR: DHS; 2004. [Available online at: www.oregon.gov/DHS/ph/pas/docs/year6.pdf; cited February 17, 2011]
51. Battin MP, van der Heide A, Ganzini L, van der Wal G, Onwuteaka-Philipsen BD. Legal physician-assisted dying in Oregon and the Netherlands: evidence concerning the impact on patients in “vulnerable” groups. *J Med Ethics* 2007;33:591–7.
52. Finlay IG, George R. Legal physician-assisted suicide in Oregon and the Netherlands: evidence concerning the impact on patients in vulnerable groups; another perspective on Oregon's data. *J Med Ethics* 2010;:[Epub ahead of print].
53. Portenoy RK, Coyle N, Kash KM, et al. Determinants of the willingness to endorse assisted suicide: a survey of physicians, nurses, and social workers. *Psychosomatics* 1997;38:277–87.
54. Zylicz B. Palliative care and euthanasia in the Netherlands: observations of a Dutch physician. In: Foley KM, Hendin H, eds. *The Case Against Assisted Suicide: For the Right to End-of-Life Care*. Baltimore, MD: Johns Hopkins University Press; 2002.
55. Cherny NI, Radbruch L, Board of the European Association for Palliative Care. European Association for Palliative Care (EAPC) recommended framework for the use of sedation in palliative care. *Palliat Med* 2009;23:581–93.
56. Emanuel EJ. Depression, euthanasia, and improving end-of-life care. *J Clin Oncol* 2005;23:6456–8.
57. Chochinov HM, Hack T, Hassard T, Kristjanson LJ, McClement S, Harlos M. Dignity therapy: a novel psychotherapeutic intervention for patients near the end of life. *J Clin Oncol* 2005;23:5520–5.

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Reporting of euthanasia in medical practice in Flanders, Belgium: cross sectional analysis of reported and unreported cases

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Cite this as: *BMJ* 2010;341:c5174
doi:10.1136/bmj.c5174

ABSTRACT

Objectives To estimate the rate of reporting of euthanasia cases to the Federal Control and Evaluation Committee and to compare the characteristics of reported and unreported cases of euthanasia.

Design Cross sectional analysis.

Setting Flanders, Belgium.

Participants A stratified at random sample was drawn of people who died between 1 June 2007 and 30 November 2007. The certifying physician of each death was sent a questionnaire on end of life decision making in the death concerned.

Main outcome measures The rate of euthanasia cases reported to the Federal Control and Evaluation Committee; physicians' reasons for not reporting cases of euthanasia; the relation between reporting and non-reporting and the characteristics of the physician and patient; the time by which life was shortened according to the physician; the labelling of the end of life decision by the physician involved; and differences in characteristics of due care between reported and unreported euthanasia cases.

Results The survey response rate was 58.4% (3623/6202 eligible cases). The estimated total number of cases of euthanasia in Flanders in 2007 was 1040 (95% CI 970 to 1109), thus the incidence of euthanasia was estimated as 1.9% of all deaths (95% CI 1.6% to 2.3%). Approximately half (549/1040 (52.8%, 95% CI 43.9% to 60.5%)) of all estimated cases of euthanasia were reported to the Federal Control and Evaluation Committee. Physicians who perceived their case as euthanasia reported it in 93.1% (67/72) of cases. Cases of euthanasia were reported less often when the time by which life was shortened was less than one week compared with when the perceived life shortening was greater (37.3% v 74.1%; $P<0.001$). Unreported cases were generally dealt with less carefully than reported cases: a written request for euthanasia was more often absent (87.7% v 17.6% verbal request only; $P<0.001$), other physicians and caregivers specialised in palliative care were consulted less often (54.6% v 97.5%; 33.0% v 63.9%; $P<0.001$ for both), the life ending act was more often performed with opioids or sedatives (92.1% v

4.4%; $P<0.001$), and the drugs were more often administered by a nurse (41.3% v 0.0%; $P<0.001$).

Conclusions One out of two euthanasia cases is reported to the Federal Control and Evaluation Committee. Most non-reporting physicians do not perceive their act as euthanasia. Countries debating legalisation of euthanasia should simultaneously consider developing a policy facilitating the due care and reporting obligations of physicians.

INTRODUCTION

Medical end of life decisions including euthanasia, are known to occur in several countries.^{1,2} Belgium is, along with the Netherlands and Luxembourg, one of the few places in the world where euthanasia is legal. Questions concerning efficient societal control over euthanasia and the prevention of abuse are at the forefront of the debate over euthanasia.³⁻⁶ The secrecy in which euthanasia takes place in countries where it is illegal prevents the development of standards for careful practice and makes societal control difficult.^{7,8} However, legalisation of euthanasia usually involves defining a standard for careful medical practice and a system for societal control.⁹⁻¹² Due care criteria were embedded in the law when euthanasia was legalised in Belgium in 2002.^{9,10} To make societal control over euthanasia possible, the law also requires physicians who perform euthanasia to report each case to the Federal Control and Evaluation Committee (review committee). This review committee determines whether or not the due care criteria of the law were respected and sends the case to the judicial authorities when irregularities are found.^{9,13}

Since legalisation of euthanasia in Belgium, the review committee has published three biennial reports covering all reported cases of euthanasia.¹⁴⁻¹⁷ According to these documents, physicians who reported cases practised euthanasia carefully and in compliance with the law, and no cases of abuse have been found. However, concerns exist that only cases of euthanasia that are dealt with carefully are being reported.¹⁸ Whether cases that are not reported to the official review system are dealt with equally carefully is uncertain.

In the Netherlands, surveys on end of life decisions have been conducted using a representative sample of death certificates to identify instances where a definition of euthanasia was met but the case was not reported to the authorities. These studies have shown that although reported and unreported cases of euthanasia did not differ according to patient characteristics and clinical conditions, physicians responsible for the unreported cases were less likely to have consulted a second physician or written a report on the decision.^{19,20} The reporting rate in the Netherlands has gradually increased from 18% in 1990 to 80.2% in 2005, indicating a trend towards more societal control over the practice.²¹ Most euthanasia cases that are not reported in the Netherlands are performed with opioids or sedatives and are often not perceived as euthanasia by the physicians themselves.^{20,21}

The rate at which physicians in Belgium report cases of euthanasia is unknown, and differences between reported and unreported cases have not been investigated. In this large scale study of death certificates, we estimate the rate of reporting of euthanasia cases in Flanders, the Dutch speaking part of Belgium, to the federal review committee. We investigate the relation between reporting and non-reporting of euthanasia and the characteristics of the physician and patient, the time by which life was shortened as estimated by the physician, and the labelling of the end of life decision by the physician involved. Finally, we study the reasons for non-reporting, and compare due care characteristics of reported and unreported cases.

METHODS

Study design

We performed a study of death certificates in Flanders, Belgium, with the principal aim of estimating the incidence of medical end of life decisions with a possible or certain life shortening effect.²² All deaths in Flanders must be reported to the proper government authorities and death certificates issued. By studying death certificates we were able to use death as the unit of measurement and reliably estimate the incidence and characteristics of end of life decisions.²³ A stratified at random sample of persons deceased in Flanders was drawn by the Flemish Agency for Care and Health, the central administration authority that handles death certificates. All deaths of Flemish residents aged 1 year or more that took place in Flanders between 1 June 2007 and 30 November 2007 were included. Deaths of Flemish persons that occurred outside of Flanders, deaths that occurred in Flanders of persons who were temporarily in Flanders but did not reside there on a permanent basis (mainly deaths by accident), and deaths of persons younger than 1 year were excluded.

To increase the reliability of the estimate of the total number of euthanasia cases, we oversampled cases where an end of life decision was more likely. Deaths were grouped into one of four strata according to the underlying cause of death on the death certificate and the corresponding probability of an end of life decision

being made. Stratum one contained all deaths where an end of life decision was certain (that is, euthanasia indicated as the immediate cause of death); stratum two contained all deaths from neoplasms (international classification of diseases, 10th revision (ICD-10) codes C and D00-D48) where medical assistance in dying was probable; stratum three contained all deaths from causes where medical assistance in dying was possible (ICD-10 codes E, F, G, J, K, and N); and stratum four contained all deaths where medical assistance in dying was improbable. All deaths in stratum one were retained in the sample, whereas 50% of the deaths in stratum two, 25% in stratum three, and 12.5% in stratum four were included. This resulted in a sample of 6927 death certificates, which represents about 25% of all deaths in the sampling period and about 12% of all deaths in the whole of 2007. Data were weighted afterwards to correct for the disproportionate stratification of the underlying causes of death.²²

Every physician who had reported a death was sent a five page questionnaire. If the physician who received the questionnaire was not the main treating physician, he or she was asked to pass the questionnaire on to the treating physician. To guarantee total anonymity of physicians and patients, a lawyer was used as intermediary between responding physicians, researchers, and the Flemish Agency for Care and Health. We used the total design method to optimise the response rate.²⁴ An intensive follow-up mailing was conducted in cases of non-response.

Deaths where physician response to the questionnaire was impossible were excluded—for example, cases where the physician could not identify the patient on the basis of the information in the letter or did not have access to the patient file; cases where the certifying physician was not the treating physician for the patient in question; and cases where the identity of the treating physician was unknown.

Positive recommendations for the anonymity procedure and study protocol were obtained from the ethical review board of the University Hospital of the Vrije Universiteit Brussel, the ethics committee of the University Hospital of Ghent University, the Belgian National Disciplinary Board of Physicians, and the Belgian Federal Privacy Commission. The study design, sampling, and mailing procedure are described in detail elsewhere,²² and the first results of this study have previously been published.²⁵

Questionnaire

The questionnaire focused on the characteristics of the end of life decision making that preceded the patient's death. Terms such as "euthanasia" were not used because they are subject to ambiguous and multidimensional definition. Instead, four key questions were used to more validly determine the types of decision in end of life care. The questions assessed whether the physician had taken any of the following measures: withholding or withdrawing medical treatment taking into account a possible life shortening effect; intensifying the alleviation of pain or other symptoms with a

possible life shortening effect; withholding or withdrawing medical treatment with the explicit intention of hastening the patient's death; or administering, supplying, or prescribing drugs with the explicit intention of hastening the patient's death. The act was classified as euthanasia if the last of the four key questions was answered affirmatively, the act was performed in response to an explicit request of the patient, and the physician or another person other than the patient himself or herself had administered the drug. This definition of euthanasia corresponds to the legal definitions of euthanasia in Belgium,⁹ the Netherlands,²⁶ and Luxembourg,²⁷ and to the definition of euthanasia used by the European Association for Palliative Care in its official position statement on euthanasia.²⁸ For cases in which physicians responded affirmatively to more than one of the four key questions, the act that involved the most explicit intention with regard to the hastening of the patient's death was used to classify the act. When classifying cases of euthanasia, the administration of drugs prevailed over the withholding or withdrawing of medical treatment for cases in which there was no single most explicit intention.

The questionnaire also contained questions about the decision making process, the type of drugs used, and the life shortening effect of the act, as estimated by the physician. We also asked whether or not the physician had reported the case to the review committee, and, if appropriate, their reasons for non-reporting. Physicians were further asked to choose the term that they thought best described their act: alleviation of symptoms; non-treatment decision; palliative or terminal sedation; or euthanasia.

Analysis

To estimate the reporting rate for euthanasia in Flanders, two numbers are needed:

- 1) An estimate of the number of euthanasia cases reported to the review committee (numerator)
- 2) An estimate of the total number of euthanasia cases performed (denominator).

The survey of death certificates allowed us to estimate the total number of euthanasia cases in Flanders in 2007. To estimate the number of euthanasia cases reported to the review committee, we used the question that asked whether or not the physician had reported the case to the review committee. The total number of euthanasia cases reported to the review committee in Belgium is actually known from the committee reports,¹⁴⁻¹⁶ but we chose not to use the official data to calculate the reporting rate because they do not allow us to distinguish with certainty the euthanasia cases performed in Flanders from those performed in Brussels or Wallonia, the other two parts of Belgium. The classification "reported" or "unreported" was made using the question whether or not the physician had reported the case to the review committee.

The total number of euthanasia cases and the total number of reported euthanasia cases were estimated by weighting the sample for the disproportionate

stratification procedure and for non-response bias with regard to age, sex, province, place, and cause of death, making the numbers representative for all deaths in Flanders in the study year. The weighting procedure was done in three steps. In the first step, the data were corrected for the disproportionate stratification procedure by assigning to the cases a weight that was the inverse of the sampling fraction of the stratum they had been assigned to. We found proportionally less hospital deaths and more cancer deaths in the sample than in the population ($P < 0.000$). To correct for this difference, in a second step the sample was weighted on the basis of place of death and cause of death by dividing the number of cases in the population by the sampled number for each combination of these characteristics. Finally, we found significant differences between responding physicians and non-responding physicians in the age, province, and place of death of their patients. We therefore calculated an additional weight by dividing the sampled number of cases by the responding number for every specific combination of these three variables. The different weights resulting from the three steps were combined into one overall weight. After this procedure no significant differences were found between the cases from responding physicians and the population for sex, age, province, place, and cause of death. The data are therefore representative of the entire population. The weighting procedure was done using binary logistic regression.

Differences in the distribution of characteristics between reported and unreported cases of euthanasia were tested by Fisher's Exact test. *P* values that were less than or equal to 0.05 were considered to indicate statistical significance. Statistical calculations were performed with SPSS software version 16.0. Reliable multivariate models could not be made because of multicollinearity.

RESULTS

Reporting rate for euthanasia

The survey response rate was 58.4 (3623/6202 eligible cases). There were 6927 deaths in the sample, of which 725 were excluded because response for these cases was impossible. There were thus 6202 eligible deaths in the sample. The number of cases of euthanasia in the sample according to the death certificates was 137. Extrapolation on the basis of these 137 cases gave an estimated total number of cases of euthanasia in Flanders in 2007 of 1040 (95% CI 970 to 1109; table 1). The incidence of euthanasia in Flanders in 2007 was thus estimated as 1.9% of all deaths (95% CI 1.6% to 2.3%).²⁵ Approximately half (549/1040 (52.8%, 95% CI 43.9% to 60.5%)) of euthanasia cases were reported to the review committee (that is, an estimated yearly number of 549, 95% CI 426 to 672).

Reasons for not reporting a case of euthanasia

The physicians who specified that they had not reported a case that the study defined as euthanasia ($n=64$ cases) were asked about the reasons for non-reporting. For 76.7% of these cases, physicians answered that they

Table 1 | Reporting rates for euthanasia in Flanders, Belgium, in 2007

	Number of cases	Rate
Estimated number of cases of euthanasia	137	—
Estimated number of reported cases of euthanasia	549	—
Estimated weighted total number of cases of euthanasia*	1040	1.9% (1.6% to 2.3%)†
Overall reporting rate for euthanasia‡		52.8% (43.9% to 60.5%)†
Reporting rates for euthanasia according to drug use‡§		
Recommended drugs¶	70	92.9% (84.3% to 96.5%)
Non-recommended drugs**	61	4.8% (1.1% to 16.9%)

*The estimated total rate of euthanasia was calculated by weighting for stratification and for patient and mortality characteristics of all deaths in 2007.²⁵ The original number of euthanasia cases in the sample was 137. One case was missing data on the variable "reporting of end of life decision."

†Percent of all deaths in Flanders, Belgium, 2007.²⁵

‡Weighted percentage.

§Five "missings" on the variable "drugs used for euthanasia."

¶Barbiturates, neuromuscular relaxants, or both.

**Opioids, benzodiazepines, or other drugs other than barbiturates or neuromuscular relaxants.

did not perceive their act as euthanasia, whereas for 17.9% they gave the reason that reporting is too much of an administrative burden, 11.9% that the legal due care requirements had possibly not all been met, and 9% that euthanasia is a private matter between physician and patient (8.7%). A small proportion (2.3%) did not report the case because of possible legal consequences (multiple answers were possible, not in tables).

Reporting of euthanasia according to characteristics of physician and patient, time by which life was shortened, and labelling of the end of life decision

General practitioners and specialists were equally likely to report their cases of euthanasia to the review committee (43/80 (53.8%) *v* 29/56 (51.8%); table 2).

We found no relation between reporting of euthanasia and the patient's sex, educational attainment, living situation, or place of death (table 2). However, in a bivariate analysis there was a significant relation between reporting of euthanasia and the patient's age, with deaths of patients aged 80 years or older reported significantly less often than deaths of younger patients (6/28 (21.4%) *v* 67/109 (61.5%); $P=0.001$). Cases were also reported less often when the time by which life was shortened was less than one week compared with when the life shortening effect was greater (27/73 (37.0%) *v* 42/57 (73.7%); $P<0.001$). These bivariate relations did not hold after controlling for labelling of the end of life decision (data not shown).

We asked all physicians who performed an act of euthanasia as defined in our study to choose the term that they thought best described the act. In 53.2% (72/136 (one case missing data on this variable)) of all cases, physicians chose the term "euthanasia." In the remaining cases the physicians chose a different label. The reporting rate for cases that were labelled "euthanasia" by the physician was 93.1%, whereas the reporting rate for cases labelled with a term other than euthanasia was much lower (7.8% overall). A large majority of the unreported cases (92.2%) involved acts of euthanasia as defined in our study but were not perceived or labelled as "euthanasia" by the physician (data not shown).

Differences between reported and unreported cases

A verbal as well as a written request for euthanasia was present in 73.1% of all reported cases, whereas a legally required written request was absent in the majority of unreported cases (87.7% verbal request only; $P<0.001$; table 3). In reported cases, the decision to perform euthanasia was always discussed with others, which was not always the case in unreported cases (100% *v* 85.2%; $P=0.001$). Other physicians and care givers specialised in palliative care were consulted more often in reported cases than in unreported cases (97.5% *v* 54.6%; $P<0.001$ and 63.9% *v* 33.0%; $P<0.001$, respectively). No differences were found between reported and unreported cases for discussion of the decision to end the patient's life with nursing staff, relatives, or other persons ($P=0.864$, $P=0.841$, and $P=0.068$, respectively).

Reported cases of euthanasia were almost always performed with barbiturates, neuromuscular relaxants, or both (95.6%), whereas the majority of unreported cases (90.5%) were performed with other drugs, mainly opioids, sedatives, or both ($P<0.001$). However, in about half (52.7%) of the unreported cases in which opioids were used with the explicit goal of hastening death, physicians indicated that they did not administer a higher dose than necessary for pain and symptom alleviation. In reported cases of euthanasia, the drugs were almost always administered by a physician (97.7% of cases); in unreported cases, the drugs were often administered by a nurse alone (41.3%; $P<0.001$). When drugs were administered by a nurse alone, the agents used were always opioids or sedatives (not in tables).

DISCUSSION

The reporting rate for euthanasia in Flanders in 2007 is estimated to be 52.8%. This means that only one out of two cases of actual euthanasia is reported to and reviewed by the Federal Control and Evaluation Committee, and one in two is not. The most important reason given by physicians for not reporting a case to the review committee was that the physician did not perceive the act to be euthanasia (76.7%). A large majority of the unreported cases (92.2%) were in fact acts of euthanasia as defined in our study but were not perceived or labelled as "euthanasia" by the physician involved. Unreported cases of euthanasia were generally dealt with less carefully than reported cases: a written request for euthanasia was absent more often; other physicians and care givers specialised in palliative care were consulted less often; the life ending act was more often performed with opioids, sedatives, or both; and the life ending drugs were more often administered by a nurse instead of a physician.

Strengths and limitations of study

This study is the first in Belgium to estimate the rate at which euthanasia is reported to the federal authorities and to study the differences between reported and unreported cases. We followed the same robust study design as in our previous studies^{29,30}; we drew a large representative sample of death certificates; used

Table 2 | Reporting of euthanasia according to characteristics of physician and patient, time by which life was shortened, and labelling of the end of life decision*

	All cases (n=137; weighted n)†	Cases reported to review committee (n=72)		P value‡
		Weighted n	Weighted percentage of cases (95% CI)	
Physician characteristic				
Type of physician				
General practitioner	80	43	53.8 (41.5 to 65.4)	0.863
Specialist	56	29	51.8 (34.3 to 69.1)	
Patient characteristic				
Sex				
Male	83	43	51.8 (38.3 to 64.9)	0.727
Female	54	30	55.6 (39.3 to 70.0)	
Age				
18-49	12	8	66.7 (31.7 to 90.0)	0.001§
50-64	37	23	62.2 (42.2 to 77.8)	
65-79	60	36	60.0 (45.3 to 72.8)	
≥80	28	6	21.4 (9.1 to 40.4)	
Educational attainment				
Primary school	20	7	35.0 (13.1 to 64.4)	0.309
Lower secondary school	40	24	60.0 (41.2 to 75.8)	
Higher secondary school or higher	37	21	58.8 (37.5 to 75.0)	
Unknown	41	21	51.2 (35.1 to 67.9)	
Living situation				
Alone	24	15	62.5 (40.6 to 80.5)	0.432
In private household	98	50	51.0 (39.1 to 63.0)	
In institution	10	4	40.0 (9.9 to 83.3)	
Place of death				
Home	66	37	56.1 (43.3 to 68.3)	0.874
Hospital	59	30	50.8 (34.1 to 67.6)	
Care home	5	2	40.0 (13.3 to 77.8)	
Other	6	3	50.0 (7.6 to 91.4)	
Diagnosis				
Malignant disease	111	58	52.3 (42.3 to 61.9)	0.002§
Cardiovascular disease	5	0	0.0 (0.0 to 0.0)	
Disease of the nervous system	7	6	85.7 (34.3 to 98.1)	
Disease of the respiratory system	6	2	33.3 (4.5 to 85.9)	
Other disease	5	5	100.0 (100 to 100)	
Shortening of life				
<24 hours	13	2	15.4 (4.8 to 40.1)	<0.001§
1-7 days	60	25	41.7 (27.6 to 57.5)	
1-4 weeks	35	21	60.0 (35.1 to 80.5)	
1-6 months	16	16	100.0 (100 to 100)	
>6 months	6	5	83.3 (44.0 to 98.8)	
Labelling of the end of life decision				
Euthanasia	72	67	93.1 (85.1 to 96.6)	<0.001§
Palliative or terminal sedation	48	2	6.3 (1.5 to 21.6)	
Non-treatment decision	8	2	25.0 (1.8 to 78.6)	
Alleviation of symptoms	8	0	0.0 (0.0 to 30.1)	

*Percentages are row percentages. All percentages and total numbers are adjusted for stratification, and to patient/mortality characteristics of all deaths in 2007, which makes the percentages representative for all deaths in Flanders in 2007. Total numbers may not always amount to 137 because of rounding or missing values on variables. Percentages may not always amount to 100 because of rounding.

†One case was missing data on the variable "reporting of end of life decision."

‡P value for reported cases versus cases not reported.

§P<0.05 using Fisher's Exact (Monte Carlo).

identical key questions; and applied the same mailing procedure to guarantee total anonymity for patients and physicians.

This study also has some limitations. The response rate was only 58%, so the possibility that the results

could have been different had the response rate been higher cannot be excluded. We therefore urge caution in interpreting the results. Furthermore, the study is based on self reporting by physicians. It is possible that they did not remember all aspects of a case well, and we cannot exclude a social desirability bias, especially for the question of whether or not the physician had reported the case to the review committee. Unfortunately, because death certificate data for 2007 are not yet available for Wallonia, the French speaking part of Belgium, we could not estimate a reporting rate for the whole country. Our findings cannot be extrapolated to the French speaking part of Belgium, in particular because research has shown that end of life practices differ in the French speaking and the Flemish speaking regions and because there may be a difference in willingness to report cases of euthanasia owing to cultural differences.^{31,32} A non-response bias cannot be completely excluded, although our non-response survey did not point to that possibility.

Study interpretation

Five years after the enactment of the euthanasia law in 2002, half of all euthanasia cases in Flanders were reported to the review committee. A similar reporting procedure exists in the Netherlands, where the current reporting rate is estimated at 80.2%.²¹ However, the Netherlands had already experienced two decades of relatively open euthanasia practice before euthanasia was officially legalised in 2002, and a reporting procedure has been in place since the early 1990s.^{13,33} Compared to the Netherlands, bringing life ending acts into the open is a relatively new experience for physicians in Flanders (and in Belgium as a whole) because physicians have only been required to report cases since the enactment of the euthanasia law.^{13,34} This may, at least in part, explain the lower reporting rate in Flanders compared with in the Netherlands. Another possible explanation could be that a higher number of unclear cases of euthanasia—in which opioids, sedatives, or both are used to hasten death instead of neuromuscular relaxants—occur in Flanders than in the Netherlands and that there are more cases in which the estimated term of life shortening is small.²¹ These less clear cut cases of euthanasia are often not perceived as euthanasia by the physicians and are consequently not being reported.

The considerable distance between the legal definition of euthanasia and the perception of the physician of whether an act was euthanasia could be explained by three possible coinciding hypotheses.

A first hypothesis suggests that when a patient requests that their life be ended and the physician in response disproportionately increases the opioid or sedative dose instead of administering neuromuscular relaxants, the distinction between euthanasia and normal compassionate intensification of symptom treatment is blurred. The confusion that may arise might mean that physicians do not perceive the life ending decision as euthanasia.³⁵ This would also explain why drugs are in these cases often administered by a nurse

Table 3 | Characteristics of due care for reported and unreported cases of euthanasia*

	All cases (n=137)‡		Cases reported to review committee (n=72)		Unreported cases (n=64)		P value
	Weighted n	Weighted percentage of cases (95% CI)	Weighted n	Weighted percentage of cases (95% CI)	Weighted n	Weighted percentage of cases (95% CI)	
Type of request for euthanasia							
Verbal request only	68	50.0 (40.1 to 60.5)	13	17.6 (9.1 to 31.5)	55	87.7 (76.6 to 93.9)	<0.001†
Written request only	9	6.6 (2.3 to 18.0)	7	9.3 (2.4 to 29.9)	2	3.7 (0.9 to 14.5)	
Verbal and written request	58	43.3 (33.5 to 53.1)	53	73.1 (56.8 to 84.9)	5	8.6 (3.9 to 18.0)	
Decision discussed with others‡							
Total	126	93.3 (80.2 to 97.8)	72	100 (100 to 100)	54	85.2 (63.0 to 95.1)	0.001†
Other physician	106	77.0 (66.2 to 85.7)	71	97.5 (88.1 to 99.5)	35	54.6 (38.7 to 69.6)	<0.001†
Care giver specialised in palliative care	67	49.1 (39.2 to 59.6)	46	63.9 (49.6 to 76.2)	21	33.0 (21.3 to 47.2)	<0.001†
Nursing staff	72	53.5 (42.8 to 63.3)	39	54.3 (40.5 to 67.5)	33	51.9 (36.6 to 66.9)	0.864
Relative	106	77.5 (66.0 to 85.8)	57	78.4 (63.6 to 88.4)	49	76.2 (57.4 to 88.4)	0.841
Other persons	8	5.9 (2.9 to 11.9)	7	9.1 (4.2 to 18.7)	1	2.3 (0.3 to 15.0)	0.068
Drug used for euthanasia							
Neuromuscular relaxant§	15	11.2 (6.5 to 18.9)	15	22.1 (12.8 to 35.0)	0	—	<0.001†
Barbiturate¶	21	15.7 (10.5 to 23.2)	18	26.5 (16.6 to 38.5)	3	4.8 (1.8 to 13.0)	
Neuromuscular relaxant and barbiturate**	34	26.6 (17.7 to 36.8)	32	47.1 (34.0 to 61.9)	2	3.2 (1.0 to 10.3)	
Opioids††	60	45.5 (35.5 to 56.4)	3	4.4 (1.0 to 15.4)	57	90.5 (80.2 to 94.8)	
Other drug	1	1.0 (0.2 to 4.1)	0	—	1	1.6 (0.5 to 8.3)	
Person who administered the drug							
Physician	96	72.2 (60.8 to 81.0)	69	97.9 (86.5 to 99.7)	27	43.0 (29.0 to 58.3)	<0.001†
Nurse	26	19.3 (11.7 to 30.4)	0	—	26	41.3 (26.3 to 57.5)	
Physician and nurse	9	7.4 (3.2 to 16.2)	1	2.1 (0.3 to 13.5)	8	13.4 (5.3 to 29.7)	
Physician and other person	2	1.2 (0.3 to 4.8)	0	—	2	2.6 (0.6 to 10.0)	

*All percentages are adjusted for stratification and for patient and mortality characteristics of all deaths in 2007, which makes the percentages representative for all deaths in Flanders in 2007.

†P<0.05, using Fisher's Exact (Monte Carlo).

‡One case was missing data on the variable "reporting of end of life decision." Total numbers may not always amount to 137 because of rounding or missing values on variables. Percentages may not always amount to 100 because of rounding.

§ Neuromuscular relaxant alone or in conjunction with benzodiazepine, opioids, or other drug other than barbiturate.

¶Barbiturate alone or in conjunction with benzodiazepine, opioids, or other drug other than muscle relaxant.

**Neuromuscular relaxant and barbiturate, alone or in conjunction with benzodiazepine, opioids, or other drug.

††Opioids alone or in conjunction with benzodiazepine or other drug other than barbiturate or neuromuscular relaxant.

*All percentages are adjusted for stratification and for patient and mortality characteristics of all deaths in 2007, which makes the percentages representative for all deaths in Flanders in 2007.

† $P < 0.05$, using Fisher's Exact (Monte Carlo).

‡One case was missing data on the variable "reporting of end of life decision." Total numbers may not always amount to 137 because of rounding or missing values on variables. Percentages may not always amount to 100 because of rounding.

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††Opioids alone or in conjunction with benzodiazepine or other drug other than barbiturate or neuromuscular relaxant.

and not according to the requirements of the euthanasia law. This hypothesis is supported by findings from another study that has shown that some physicians see a "grey area," or continuum, between palliation and euthanasia and find that the distinctions between the two are not always clear cut.³⁵ The fact that some of the physicians in our study indicated that their use of opioids, sedatives, or both had the explicit intention of hastening death, yet at the same time indicated they had not used a higher dose than necessary to alleviate pain and other symptoms, may be an indication of the confusion that can arise in these situations. Although the physicians in our study had the intention of hastening death and believed that death was the result of using these drugs, it is possible that some may have overestimated the actual life shortening effect of the drugs they administered.

A second proposed hypothesis is one of reducing cognitive dissonance. Some physicians may on the one hand feel reluctant to perform euthanasia or follow the requirements of the euthanasia law, while on the other hand want to help the patient who requests euthanasia. To reduce this cognitive dissonance, they may

choose to use opioids or sedatives because these drugs are not normally associated with euthanasia. Research has also shown that this kind of life ending practice might be more psychologically acceptable to physicians than euthanasia by bolus injection.³⁶ By disguising the end of life decision as normal medical practice, whether deliberately or not, physicians might feel they have granted their patient's wish without in their eyes having performed real euthanasia and without having to comply with the euthanasia law.

Opioids and sedatives are used to perform euthanasia more often in patients older than 80 than in younger patients, which may indicate that physicians are perhaps more reluctant to perform euthanasia in elderly patients. Research from the Netherlands has shown that requests for euthanasia from older patients are often refused.³⁷ There are strong positive associations with refusing a request where the patient is not fully competent and where there is a lesser degree of unbearable and hopeless suffering.³⁷ It is possible that physicians find that older patients' requests or suffering are not explicit enough to merit what is in their eyes real euthanasia by bolus injection.

WHAT IS ALREADY KNOWN ON THIS TOPIC

Medical end of life decisions, including euthanasia, are known to occur in several countries; Belgium legalised euthanasia in 2002

To provide societal control over the practice of euthanasia, physicians in Belgium are required by law to report each case to the Federal Control and Evaluation Committee

The rate at which physicians in Belgium report cases of euthanasia is unknown, and possible differences between reported and unreported cases have not been investigated

WHAT THIS STUDY ADDS

The reporting rate for euthanasia in Flanders, the Dutch speaking part of Belgium, in 2007 is estimated at 52.8%

Most physicians who did not report cases of euthanasia did not perceive their act as euthanasia

Unreported cases of euthanasia were generally dealt with less carefully than reported cases

A third hypothesis has to do with perceived time pressure. Our results indicate that unreported cases involved a shorter period by which life was shortened. It is plausible that, in cases in which the patient is obviously in a lot of pain and then requests euthanasia, the physician may feel under pressure to help the patient as soon as possible. He or she could then begin the process of euthanasia, but this process can be experienced as too time consuming or burdensome. The physician may in these circumstances prefer to use opioids or sedatives because these drugs are more readily available and there is less control over their distribution than with neuromuscular relaxants. By disguising euthanasia as pain alleviation, physicians can proceed with the euthanasia process without having to comply with the stringent, and in their perception time consuming, procedures of the euthanasia law.

We found a strong relation between a priori consultation of other physicians and the reporting of euthanasia. Consultation occurred in almost all reported cases, whereas it occurred in only half of all unreported cases. This association was also found in the Netherlands,^{38,39} where the most important reason for not consulting was that the physician did not intend to report the case. Physicians who intend to report a case seem to consult another physician and comply with the other requirements of the law, whereas physicians who do not intend to report a case appear to consult a physician only when they feel the need for the opinion of a colleague.³⁹ In the Netherlands, the availability of a service of expert consultants has had a positive influence on the reporting rate of euthanasia.³⁸ A similar service was developed in Flanders,⁴⁰⁻⁴² and it is likely that such services, in increasing physicians' knowledge of euthanasia, may help increase the reporting rate.

Conclusions and policy implications

The quality of medical practice at the end of life needs monitoring in any kind of society, and certainly in countries that have legalised euthanasia. To provide better societal control over euthanasia and safeguard the quality of the practice, it is necessary that all cases of euthanasia are reported. The transparency in reporting that

was envisaged by the architects of the euthanasia law in Belgium extends especially to those cases in which the time by which life is shortened is greater than one week and to those cases in which it is more certain that life is shortened by the drugs administered. However, this study estimated that in 2007 only half of all cases of euthanasia in Flanders and around three in four where life was shortened by more than one week were reported to the review committee.

As such legalisation alone does not seem sufficient to reach the goal of transparency ("total" or a 100% transparency seems to be a rather utopian ideal) and to guarantee the careful practice of euthanasia. It seems warranted that a policy be developed to facilitate physicians in complying correctly with a request for euthanasia, including their obligation to report. Education in medical schools and adequate support for treating physicians who are confronted with an explicit request for euthanasia will be pivotal in reaching that goal.

The possibility of societal control over the euthanasia practice is an important prerequisite for effective euthanasia legislation. By estimating the reporting rate for euthanasia in a country that has legalised the practice and by investigating reasons for non-reporting, our study offers valuable data driven information that can inform the debates about the legalisation of euthanasia that are currently going on in the United Kingdom and in many other countries.

We thank Herwin De Kind, Anne Kongs, the team of the Flemish Agency for Care and Health, lawyer Wim De Brock, and Kenneth Chamberaere and Geert Poussiet for their cooperation in the data collection. We thank Johan Vanoverloop and Steven Gorié for their statistical advice and Jane Ruthven for her linguistic help. We thank the Belgian National Disciplinary Board of Physicians for their approval of the study and Koen Matthijs for supporting the study. Especially we thank the thousands of physicians who provided the study data.

Contributors: LD and FM were project supervisors. TS analysed the data and wrote the manuscript. All authors contributed to data analysis and commented critically on several drafts of the manuscript, including the final version. All authors had full access to all of the data (including statistical reports and tables) in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis. LD is guarantor of the study.

Funding: This study is part of the Monitoring Quality of End of Life Care (MELC) study, a collaboration between the Vrije Universiteit Brussel, Ghent University, Antwerp University, the Scientific Institute of Public Health, all in Belgium, and VU University Medical Center Amsterdam, The Netherlands. This study is supported by a grant from the Institute for the Promotion of Innovation by Science and Technology in Flanders (Instituut voor de aanmoediging van Innovatie door Wetenschap en Technologie in Vlaanderen; SBO IWT nr. 050158). The funders had no role in study design; in the collection, analysis and interpretation of the data; in the writing of the manuscript; or in the decision to submit for publication.

Competing interests: All authors have completed the Unified Competing Interest form at www.icmje.org/doi_disclosure.pdf (available on request from the corresponding author) and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous 3 years; no other relationships or activities that could appear to have influenced the submitted work.

Ethical approval: The ethical review board of the University Hospital of the Vrije Universiteit Brussel, the ethics committee of the University Hospital of Ghent University, the Belgian National Disciplinary Board of Physicians, and the Belgian Federal Privacy Commission approved the study protocol.

Data sharing: No additional data available.

- 1 Van der Heide A, Deliens L, Faisst K, Nilstun T, Norup M, Paci E, et al, on behalf of the EURELD consortium. End-of-life decision-making in six European countries: descriptive study. *Lancet* 2003;362:345-50.
- 2 Meier D, Emmons CA, Wallenstein S, Quill T, Morrison RS, Cassel CK. A national survey of physician-assisted suicide and euthanasia in the United States. *N Engl J Med* 1998;338:1193-201.
- 3 George RJD, Finlay IG, Jeffrey D. Legalised euthanasia will violate the rights of vulnerable patients. *BMJ* 2005;331:684-5.
- 4 Materstvedt LJ, Clark D, Ellershaw J, Reidun F, Boeck Gravaard AM, Müller-Busch HC, et al. Euthanasia and physician-assisted suicide: a view from an EAPC Task Force. *Palliat Med* 2003;17:97-101.
- 5 Magnusson RS. Euthanasia: above ground, below ground. *JME* 2004;30:441-6.
- 6 Van der Heide A, Van Delden JJM, van der Wal G. Doctor-assisted dying: what difference does legalisation make? *Lancet* 2004;364:24-5.
- 7 Pollard BJ. Can euthanasia be safely legalized? *Palliat Med* 2001;15:61-5.
- 8 New York State Task Force on Life and the Law. *When death is sought. Assisted suicide and euthanasia in the medical context*. New York State Task Force on Life and the Law, 1994.
- 9 Belgisch Staatsblad. Wet betreffende euthanasie 28 mei 2002. [Law concerning euthanasia 28 May 2002] [Dutch]. Bill number 2002009590. 22 June 2002. <http://www.health.belgium.be/internet2Prd/groups/public/@public/@dg1/@acutecare/documents/ie2law/14888539.pdf>.
- 10 Deliens L, van der Wal G. The euthanasia law in Belgium and the Netherlands. *Lancet* 2003;362:1239-40.
- 11 Regionale Toetsingscommissies Euthanasie. Wet toetsing levensbeëindiging op verzoek en hulp bij zelfdoding 1 april, 2002. [Termination of Life on Request and Assisted Suicide (Review Procedures) Act, 1 April 2002] [Dutch]. 2005. www.toetsingscommissies euthanasie.nl/wetgeving.
- 12 Service Central de Legislation. Loi du 16 mars 2009 sur l'euthanasie et l'assistance au suicide. [Law of 16 March 2009 on euthanasia and assisted suicide] [French]. 2009. www.legilux.public.lu/leg/a/archives/2009/0046/a046.pdf.
- 13 Smets T, Bilsen J, Cohen J, Rurup ML, De Keyser E, Deliens L. The medical practice of euthanasia in Belgium and the Netherlands: legal notification, control, and evaluation procedures. *Health Policy* 2009;90:181-7.
- 14 Federale Controle—en Evaluatiecommissie voor euthanasie. Eerste verslag aan de wetgevende kamers 22 september 2002-31 december 2003 [Federal Control and Evaluation Committee on Euthanasia. First report to Parliament, 22 September 2002-31 December 2003] [Dutch]. 2003. <http://www.health.belgium.be/internet2Prd/groups/public/@public/@dg1/@acutecare/documents/ie2divers/14276508.pdf>.
- 15 Federale Controle—en Evaluatiecommissie voor Euthanasie. Tweede verslag aan de wetgevende kamers 1 januari 2004-31 december 2005, 2006 [Federal Control and Evaluation Committee on Euthanasia. Second report to Parliament, 1 January 2004-31 December 2005] [Dutch]. 2006. <http://www.health.belgium.be/internet2Prd/groups/public/@public/@dg1/@acutecare/documents/ie2divers/14088500.pdf>.
- 16 Federale Controle—en Evaluatiecommissie voor Euthanasie. Derde verslag aan de wetgevende kamers 1 januari 2006-31 december 2007, 2008 [Federal Control and Evaluation Committee on Euthanasia. Second report to Parliament, 1 January 2006-31 December 2007] [Dutch]. 2008. <http://www.health.belgium.be/internet2Prd/groups/public/@public/@dg1/@acutecare/documents/ie2divers/14280500.pdf>.
- 17 Smets T, Bilsen J, Cohen J, Rurup ML, Deliens L. Legal euthanasia in Belgium. Characteristics of all reported euthanasia cases. *Med Care* 2010;48:187-92.
- 18 Keown J. Mr Marty's muddle: a superficial and selective case for euthanasia in Europe. *JME* 2006;32:29-33.
- 19 Van der Wal G, van der Maas PJ, Bosma JM, Onwuteaka-Philipsen BD, Willems DL, Haverkate I, et al. Evaluation of the notification procedure for physician-assisted death in the Netherlands. *N Engl J Med* 1996;335:1706-11.
- 20 Rurup M, Buiting HM, Pasman RHW, van der Maas PJ, van der Heide A, Onwuteaka-Philipsen BD. The reporting rate of euthanasia and physicians-assisted suicide. A study of the trends. *Med Care* 2008;46:1198-202.
- 21 Van der Heide A, Onwuteaka-Philipsen BD, Rurup M, Buiting HM, Van Delden JJM, Hanssen-de Wolf JE. End-of-life practices in the Netherlands under the Euthanasia Act. *N Engl J Med* 2007;356:1957-65.
- 22 Chambaere K, Bilsen J, Cohen J, Pousset G, Onwuteaka-Philipsen BD, Mortier F, et al. A post-mortem survey on end-of-life decisions using a representative sample of death certificates in Flanders, Belgium: research protocol. *BMC Public Health* 2008;8:299.
- 23 Teno JM. Measuring end-of-life care outcomes retrospectively. *J Palliat Med* 2005;8:42-9.
- 24 Dillman T. Mail and telephone surveys. The total design method. Wiley, 1978.
- 25 Bilsen J, Cohen J, Chambaere K, Pousset G, Onwuteaka-Philipsen BD, Mortier F, et al. Medical end-of-life practices under the euthanasia law in Belgium. A nationwide post-mortem survey. *N Engl J Med* 2009;361:1119-21.
- 26 Regionale Toetsingscommissies Euthanasie. Wet toetsing levensbeëindiging op verzoek en hulp bij zelfdoding 1 april, 2002 [Termination of Life on Request and Assisted Suicide (Review Procedures) Act, 1 April 2002] [Dutch]. 2005. www.toetsingscommissies euthanasie.nl/wetgeving.
- 27 Service Central de Legislation. Loi du 16 mars 2009 sur l'euthanasie et l'assistance au suicide. [Law of 16 March 2009 on euthanasia and assisted suicide] [French]. 2009. www.legilux.public.lu/leg/a/archives/2009/0046/a046.pdf.
- 28 Materstvedt LJ, Clark D, Ellershaw J, Forde R, Boeck Gravaard A-M, Müller-Busch HC, et al. Euthanasia and physician-assisted suicide: a view from an EAPC Ethics Task Force. *Palliat Med* 2003;17:97-101.
- 29 Mortier F, Deliens L, Bilsen J, Cosyns M, Ingels K, Vander Stichele R. End-of-life decisions of physicians in the city of Hasselt (Flanders, Belgium). *Bioethics* 2000;14:254-67.
- 30 Deliens L, Mortier F, Bilsen J, Cosyns M, Vander Stichele R, Vanoverloop J, et al. End-of-life decisions in medical practice in Flanders, Belgium: a nationwide survey. *Lancet* 2000;356:1806-11.
- 31 Chambaere K, Bilsen J, Cohen J, Raman E, Deliens L. Differences in performance of euthanasia and continuous deep sedation by French- and Dutch-speaking physicians in Brussels, Belgium. *J Pain Symptom Manage* 2010;39:e5-7.
- 32 Van den Block L, Deschepper R, Bilsen J, Bossuyt N, Van Casteren V, Deliens L. Euthanasia and other end-of-life decisions: a mortality follow-back study in Belgium. *BMC Public Health* 2009;9:79.
- 33 Weyers H. Explaining the emergence of euthanasia law in the Netherlands: how the sociology of law can help the sociology of bioethics. *Social Health Illn* 2006;28:802-16.
- 34 Adams M. Euthanasia: the process of legal change in Belgium. In: Klijn A, Otlowski M, Trappenburg M, eds. *Regulating physician-negotiated death*. Elsevier, 2001. p. 29-48.
- 35 Sprung CL, Ledoux D, Bulow HR, Lippert A, Wennberg E, Baras M, et al. Relieving suffering or intentionally hastening death: where do you draw the line? *Crit Care Med* 2008;36:8-13.
- 36 Douglas C, Kerridge I, Ankeny R. Managing intentions: the end-of-life administration of analgesics and sedatives, and the possibility of slow euthanasia. *Bioethics* 2008;22:388-96.
- 37 Jansen-van der Weide MC, Onwuteaka-Philipsen BD, van der Wal G. Granted, undecided, withdrawn, and refused requests for euthanasia and physician-assisted suicide. *Arch Intern Med* 2005;165:1698-704.
- 38 Jansen-van der Weide MC, Onwuteaka-Philipsen BD, van der Wal G. Implementation of the project "Support and Consultation on Euthanasia in the Netherlands (SCEN)." *Health Policy* 2004;69:365-73.
- 39 Onwuteaka-Philipsen BD, van der Wal G, Kostense PJ, van der Maas PJ. Consultation with another physician on euthanasia and assisted suicide in the Netherlands. *Soc Sci Med* 2000;51:429-38.
- 40 Van Wesemael Y, Cohen J, Onwuteaka-Philipsen BD, Bilsen J, Distelmans W, Deliens L. Role and involvement of LEIF-physicians (Life End Information Forum) in euthanasia and other end-of-life care decisions in Flanders, Belgium. *Health Serv Res* 2009;44:2180-92.
- 41 Distelmans W, Destrooper P, Bauwens S, De Maegd M, Van de Gaer K. Life End Information Forum (LEIF): professional advice and support at end-of-life issues. *Psycho Oncology* 2008;17:222.
- 42 Distelmans W, Bauwens S, Destrooper P. Life End Information Forum-physicians (LEIFartsen): improvement of communication skills in end-of-life issues among physicians. *Psycho Oncology* 2006;15(suppl 2):226-7S.

Accepted: 26 July 2010

Physician-assisted deaths under the euthanasia law in Belgium: a population-based survey

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@@ See related research article by Inghelbrecht and colleagues

ABSTRACT

Background: Legalization of euthanasia and physician-assisted suicide has been heavily debated in many countries. To help inform this debate, we describe the practices of euthanasia and assisted suicide, and the use of life-ending drugs without an explicit request from the patient, in Flanders, Belgium, where euthanasia is legal.

Methods: We mailed a questionnaire regarding the use of life-ending drugs with or without explicit patient request to physicians who certified a representative sample ($n = 6927$) of death certificates of patients who died in Flanders between June and November 2007.

Results: The response rate was 58.4%. Overall, 208 deaths involving the use of life-ending drugs were reported: 142 (weighted prevalence 2.0%) were with an explicit patient request (euthanasia or assisted suicide) and 66 (weighted prevalence 1.8%) were without an explicit request. Euthanasia and assisted suicide mostly involved patients less than 80 years of age, those with cancer and those dying at home. Use of life-ending drugs without an explicit request mostly involved patients 80 years of older, those with a disease other than cancer and those in hospital. Of the deaths without an explicit request, the decision was not discussed with the patient in 77.9% of cases. Compared with assisted deaths with the patient's explicit request, those without an explicit request were more likely to have a shorter length of treatment of the terminal illness, to have cure as a goal of treatment in the last week, to have a shorter estimated time by which life was shortened and to involve the administration of opioids.

Interpretation: Physician-assisted deaths with an explicit patient request (euthanasia and assisted suicide) and without an explicit request occurred in different patient groups and under different circumstances. Cases without an explicit request often involved patients whose diseases had unpredictable end-of-life trajectories. Although opioids were used in most of these cases, misconceptions seem to persist about their actual life-shortening effects.

lands in 2002, and Luxemburg in 2009) and two US states (Oregon in 1997 and Washington State in 2009) decriminalized euthanasia and physician-assisted suicide under formal conditions.¹⁻⁵ Canada is among a number of countries where the debate over legalization has flared up, with a proposed bill reaching Parliament and a pro-euthanasia proposal by the Quebec College of Physicians.⁶

Understandably, the issue of euthanasia triggers much emotion and can be fraught with speculative arguments. Opponents of euthanasia often argue that legalizing the procedure will lead to a rise in the use of life-ending drugs without a patient's explicit request, especially in vulnerable patient groups.⁷⁻¹⁰ Thus far, however, no indications of this have been found in studies of physician-assisted deaths before and after legalization in Belgium and the Netherlands.^{9,11,12} In Belgium, the percentage of deaths in which life-ending drugs were used remained stable, and the proportion without an explicit request from the patient decreased.¹² Other studies have shown that euthanasia, physician-assisted suicide and the use of life-ending drugs without explicit patient request are not confined to countries where physician-assisted death is legal.¹³⁻¹⁶

In addition to knowing the overall occurrence of physician-assisted death, it is equally important for an adequately informed, empirically based debate to know its performance in vulnerable patient groups and the care put into the decision and performance. In light of legalization and its alleged effects on the use of life-ending drugs without patient request, it is also important to map similarities and differences between euthanasia and the use of life-ending drugs without explicit patient request. In this article, we report our investigation of demographic and clinical characteristics associated with physician-assisted deaths in Flanders, Belgium; the involvement of the patient, relatives and other caregivers in

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CMaj 2010. DOI:10.1503/cmaj.091876

DOI:10.1503/cmaj.091876

Euthanasia and physician-assisted suicide are heavily debated issues in medical practice. In recent years, three European countries (Belgium and the Nether-

the decision-making process; reasons for the decisions; aspects of the treatment trajectory; and details of the performance in terms of drug use and the people administering the life-ending drugs.

Methods

Study design

In 2007 we conducted a large-scale study of death certificates in Flanders, the Dutch-speaking part of Belgium that has about six million inhabitants and 55 000 deaths per year. We obtained a stratified sample of all death certificates from June to November 2007 of Belgian residents aged one year or older from the Flemish Agency for Care and Health. We assigned the certificates to one of four strata according to cause of death and the corresponding estimated likelihood of an end-of-life decision. Sampling fractions for strata increased proportionally with this likelihood. The resulting sample comprised 6927 death certificates, which represented 25% of deaths during the study period and about 12% of all deaths in Flanders in 2007. Details of the methodology for this review have been described elsewhere.¹⁷

A five-page questionnaire and covering letter explaining the study were sent to the attending physician in each case. A response was regarded as implicit consent to participate. If the physician did not respond after three reminders, a one-page questionnaire was sent enquiring about the reasons for nonresponse. Total anonymity for participating physicians and deceased patients was guaranteed through a rigorous mailing procedure involving a lawyer as intermediary between physicians and researchers. Information from the death certificates (patient sex, age, place of death and cause of death) was made available only after it had been coded, to preclude any identification of patient or physician. For the anonymity procedure, we received approval from the ethical review boards of the organizing universities, and recommendations from the Belgian Medical Disciplinary Board and the Belgian Federal Privacy Commission.

Questionnaire

We modelled the questionnaire after ones used and extensively validated in previous studies in Belgium and other European countries.¹¹⁻¹³ For the present study, the questionnaire was validated through testing by a panel of physicians.

Physicians were asked about end-of-life decisions, defined as "medical decisions at the end of patients' lives with a possible or certain life-shortening effect." We identified cases as physician-assisted deaths if the physician gave an affirmative answer to the following question: "Was the death the consequence of the use of drugs prescribed, supplied or administered by you or another physician with the explicit intention of hastening the end of life or of enabling the patient to end his or her own life?" Additional questions dealt with the life-ending drugs used and who administered the drugs. Other sections of the questionnaire asked about the involvement of the patient, family and other caregivers in the decision-making process, the reasons for the decision, how long the patient had received treatment for the illness leading to death,

the main goal of treatment in the last week before death and the estimated time by which the patient's life was shortened.

For the deaths with an explicit request from the patient, we classified them as euthanasia if someone other than the patient had administered the drugs and as physician-assisted suicide when the patient had administered the drugs.

Statistical analysis

We weighted the reported percentages to correct for the disproportionate stratification of deaths and to correct for differences between the response sample and all deaths in Flanders in 2007 relating to sex, age, province of death, place of death and cause of death (differences were found relating only to place of death). We conducted statistical analyses with SPSS 17.0 software, using the complex samples procedure to account for the stratified sample design and associated standard errors. We used the Fisher exact test to compare differences in distributions between physician-assisted death with explicit patient request (euthanasia or assisted suicide) and the use of life-ending drugs without explicit patient request; statistical significance was set at a *p* value of less than 0.05.

Results

We received questionnaires for 3623 of the 6927 deaths. For 725 of the remaining 3304 deaths, a response was not possible because the physician no longer had access to the patient's medical file because of a change of workplace, or the physician could not retrieve the identity of the patient. We removed these cases from the sample. The final response rate, therefore, was 58.4% (3623 of 6202 valid cases).

We identified 208 physician-assisted deaths: 142 (weighted prevalence 2.0%) with an explicit request from the patient (137 euthanasia, 5 assisted suicide) and 66 (weighted prevalence 1.8%) without an explicit request (Table 1). Euthanasia and assisted suicide predominantly involved patients less than 80 years old (79.6%), those with cancer (80.2%) and those dying at home (50.3%). Of the cases without an explicit request from the patient, most involved patients who were 80 years of age or older (52.7%), those without cancer (67.5%) and those who died in hospital (67.1%). The distribution of patient characteristics for life-ending acts without explicit request was similar to that for all other deaths in Flanders, except that it was performed more often in hospital and by clinical specialists.

The decision to end life was discussed with the patient in 22.1% of the cases without an explicit patient request (Table 2). In cases where the decision had not been discussed with the patient, the physician specified as reason(s) that the patient was comatose (70.1% of cases) or had dementia (21.1%); in 40.4% of cases, the physician indicated that the patient had previously expressed a wish for ending life (not equivalent to an explicit request for euthanasia). Physicians specified that the decision had not been discussed with the patient because the decision was in the patient's best interest (17.0%) or because discussion would have been harmful (8.2%). Compared with euthanasia or assisted suicide, the use of life-ending drugs without an explicit patient request was

discussed less often with other caregivers, but as often with the patient's family. Pain and the patient's wish for ending life were more often reasons for carrying out euthanasia or assisted suicide, whereas family burden and the consideration that life was not to be needlessly prolonged were more often reasons for using life-ending drugs without explicit patient request.

Assisted deaths with and without an explicit request from the patient differed significantly with regard to length of treatment of the terminal illness, the primary goal of treatment during the last week and the estimated time by which life was shortened (Table 3). In most cases in which euthanasia or physician-assisted suicide was performed, the patients had been treated for their terminal illness for more than 6 months (80.3%), the goal of treatment in the last week was patient comfort (94.3%), and life was shortened by 1 week or more (44.5%). In contrast, the cases without an explicit request were more likely to have a shorter length of treatment of the terminal illness (< 1 month in 46.1% of cases), to have cure as a goal of treatment in the last week (14.6% v. 1.2% of

cases with an explicit request) and to have a shorter estimated time by which life was shortened (< 24 hours in 47.9% of cases) (Table 3).

Compared with drugs used in euthanasia and assisted suicide, opioids were used far more often in the ending of life without an explicit patient request, especially when used as the sole drug (Table 4). In these cases, the dosage was strongly increased in the last 24 hours in 45.8%, and the physician indicated it to be higher than needed to alleviate the patient's symptoms in 46.8% (data not shown). Nurses were more often involved in the administration of the drugs when there was no explicit request from the patient than in cases of euthanasia or assisted suicide.

Interpretation

We found that, five years after the euthanasia law was enacted in Belgium, euthanasia and assisted suicide occurred in 2.0% of all deaths in Flanders during the study period. They predominantly involved patients less than 80 years old, patients

Table 1: Characteristics of physician-assisted deaths and all other deaths in Flanders, Belgium, from June to November 2007

Characteristic	Physician-assisted deaths; weighted %*		p value†	All other deaths, %* n = 3415
	With patient's explicit request† n = 142	Without patient's explicit request n = 66		
% of all deaths (weighted*)	2.0	1.8		—
Sex, male	61.3	46.2	0.09	49.6
Age, yr			< 0.001	
1–64	37.0	8.2		17.0
65–79	42.6	39.1		32.4
≥ 80	20.4	52.7		50.6
Cause of death			< 0.001	
Cardiovascular disease	3.8	37.5		34.3
Malignant disease	80.2	32.4		26.6
Respiratory disease	4.7	10.8		12.2
Disease of the nervous system	7.2	3.6		3.5
Other disease	4.0	15.6		23.4
Place of death			< 0.001	
At home	50.3	18.7		23.1
Hospital	41.9	67.1		49.6
Care home	3.4	12.5		23.1
Other	4.3	1.6		4.1
Type of physician			0.001	
General practitioner	60.1	32.3		43.4
Clinical specialist	39.7	66.5		50.2
Other	0.2	1.2		6.4

*Percentages are weighted to correct for the disproportionate stratification of deaths and for differences in the distribution of patient characteristics (sex, age, province in which death occurred, place of death and cause of death) between study sample and all deaths. Percentages may not total 100 because of rounding. The discrepancy between the number of deaths and the weighted percentage is due to the oversampling of euthanasia cases in the sampling method.

†Euthanasia and assisted suicide.

‡Calculated using Fisher exact test, for comparison between physician-assisted death with and without explicit request from the patient.

with cancer and patients dying at home; the drugs used most often were barbiturates and muscle relaxants, alone or in combination; and the severity of pain or other symptoms, the lack of prospects of improvement and the patient's wishes were the most common reasons for performing these acts.

The use of life-ending drugs without an explicit request from the patient occurred in 1.8% of the deaths in Flanders during the study period. Most of these cases involved patients

80 years or older and occurred in hospital. In the majority of cases, the patient was not involved in the decision, primarily because of coma or dementia; however, relatives and other caregivers were often consulted. Considerations involving the relatives and needless prolongation of life were reasons indicated by physicians for reaching the decision. Compared with euthanasia and assisted suicide, cases of assisted death without an explicit request from the patient had a shorter length of

Table 2: Decision-making process at the end of life in physician-assisted deaths

Process	Physician-assisted deaths; weighted %*		p value§
	With patient's explicit request† n = 142	Without patient's explicit request n = 66‡	
Decision discussed with patient	100.0	22.1	< 0.001
Decision not discussed with patient	—	77.9	
Reason for not discussing decision with patient**			
Patient was comatose		70.1	
Patient had dementia		21.1	
Decision was clearly in patient's best interest		17.0	
Discussion would have been harmful to patient		8.2	
Other		10.1	
Decision not discussed, but patient had previously expressed a wish for ending life		40.4	
Decision not discussed, but patient had a written advance directive††		4.0	
Decision discussed with family	77.4	79.4	0.84
Decision discussed with other caregivers	89.1	71.0	0.010
Physician(s)	77.8	58.4	0.026
Nurse(s)	54.1	40.2	0.13
Caregiver(s) specialized in palliative care	50.0	14.8	< 0.001
Decision discussed with no one	0.0	6.5	0.05
Reason for decision**			
Patient had severe pain	59.9	33.2	0.001
Patient had severe symptoms other than pain	72.6	57.5	0.05
Wish of the patient	93.1	6.3	< 0.001
Wish of the family	25.6	50.1	0.005
Expectation of further suffering of patient	53.8	52.9	1.00
No prospect of improvement	84.4	81.9	0.66
Life not to be prolonged needlessly	39.9	62.9	0.007
Expectation of low quality of life	56.3	54.3	0.86
Unbearable situation for the family	17.0	38.2	0.007
Loss of dignity	51.1	43.5	0.40
Other	0.0	6.2	0.05

*Percentages are weighted to correct for the disproportionate stratification of deaths and for differences in the distribution of patient characteristics (sex, age, province in which death occurred, place of death and cause of death) between study sample and all deaths. Percentages may not total 100 because of rounding.

†Euthanasia and assisted suicide.

‡One case is missing for "decision discussed with patient" and for "reason for decision"; 11 cases are missing for "reason for not discussing decision with patient."

§Calculated where applicable using Fisher exact test, for comparison between physician-assisted death with and without explicit request from the patient.

**Multiple answers were possible. Reasons given were selected from prestructured answers.

††Advance directive for end-of-life care, not for euthanasia.

treatment of the terminal illness, were more likely to have cure as a goal of treatment in the last week, had a shorter estimated time by which life was shortened and more often involved the administration of opioids alone.

Our finding that euthanasia and assisted suicide were typically performed in younger patients, patients with cancer and patients dying at home is consistent with findings from other studies.^{11,18-21} Our finding that the use of life-ending drugs without explicit patient request occurred predominantly in hospital and among patients 80 years or older who were mostly in a coma or had dementia fits the description of "vulnerable" patient groups at risk of life-ending without request.⁷⁻¹⁰ Attention should therefore be paid to protecting these patient groups from such practices. However, when compared with all deaths in Flanders, elderly patients and patients dying of diseases of the nervous system (including dementia) were not proportionally at greater risk of this practice than other patient groups. In the Netherlands in 2005, use of life-ending drugs without explicit request was most often performed by clinical specialists (i.e., in hospital), but occurred relatively infrequently in older patients.¹¹

The differences we observed in demographic and clinical

Table 3: Length of treatment, primary goal of treatment and estimated time by which life was shortened in physician-assisted deaths

Process	Physician-assisted deaths; weighted %*		p value§
	With patient's explicit request† n = 142	Without patient's explicit request n = 66‡	
Length of treatment of terminal illness			< 0.001
< 1 month	9.6	46.1	
1-6 months	10.2	13.8	
> 6 months	80.3	40.0	
Primary goal of treatment during week before death			0.013
Cure	1.2	14.6	
Prolongation of life	4.6	4.9	
Comfort	94.3	80.5	
Estimated time by which life was shortened			< 0.001
< 1 day	11.4	47.9	
1-7 days	44.1	38.4	
≥ 1 week	44.5	13.6	

*Percentages are weighted to correct for the disproportionate stratification of deaths and for differences in the distribution of patient characteristics (sex, age, province in which death occurred, place of death and cause of death) between study sample and all deaths. Percentages may not total 100 because of rounding.

†Euthanasia and assisted suicide. Missing cases: 1 for length of treatment, 2 for primary goal of treatment and 1 for estimated time by which life was shortened.

‡Missing cases: 1 for length of treatment, 3 for primary goal of treatment and 1 for estimated time by which life was shortened.

§Calculated using Fisher exact test, for comparison between physician-assisted death with and without explicit request from the patient.

characteristics between the cases of euthanasia or assisted suicide and those of life-ending drug use without an explicit patient request likely reflect differences in the illness trajectories of the patients concerned. Four out of five cases of euthanasia or assisted suicide involved patients with terminal

Table 4: Information reported about the use of life-ending drugs in physician-assisted deaths*

Information	Physician-assisted death, weighted %*		p value§
	With patient's explicit request† n = 142	Without patient's explicit request n = 66‡	
Number of drugs used			0.038
1	33.2	51.4	
≥ 2	66.8	48.6	
Type of drugs used			< 0.001
Muscle relaxant	0.5	—	
Muscle relaxant and barbiturate	29.0	0.9	
Muscle relaxant and drug other than barbiturate	6.4	—	
Barbiturate	9.8	—	
Barbiturate and drug other than muscle relaxant	9.5	1.0	
Opioid	21.9	48.7	
Opioid and drug other than muscle relaxant and barbiturate	21.9	46.6	
Benzodiazepine	1.0	2.7	
Person who administered drugs			0.018
Physician	69.6	47.2	
Physician and nurse	8.1	17.4	
Nurse	18.9	33.8	
Patient	1.0	—	
Physician and patient	2.4	—	
Nurse and someone else**	—	1.6	
Physician present during administration††	86.7	79.9	0.35

*Percentages are weighted to correct for the disproportionate stratification of deaths and for differences in the distribution of patient characteristics between study sample and all deaths. Percentages may not total 100 because of rounding.

†Euthanasia and assisted suicide. Two cases missing for number of drugs used and for drugs used.

‡One case missing for number of drugs used and for drugs used.

§Calculated using Fisher exact test, for comparison between physician-assisted death with and without explicit request from the patient.

**Relative of the patient.

††Includes cases in which physician administered drugs or was present during administration of drugs by someone else.

cancer, which generally has a predictable illness trajectory. For these patients, much time can pass between diagnosis and death, which creates the opportunity for anticipatory decision-making. In contrast, in the group without an explicit patient request, most of the patients had diseases other than cancer, which have less predictable end-of-life trajectories.^{22,23} In addition, with cure being the main goal of treatment in the last week for some of these patients, and with the length of treatment of the terminal illness often being less than one month, we believe that the use of life-ending drugs without explicit patient request often involved chronically ill patients whose general condition suddenly and drastically deteriorated to a point that left them permanently unable to communicate. In these situations, as is apparent from our findings, physicians need to decide on a course of action together with the patient's family, which may result in a conflict of interest. This underscores the importance of advance care planning with family and caregivers, and of communication regarding the patient's wishes should he or she become comatose or incompetent. Such measures will undoubtedly limit the number of cases of life-ending without explicit patient request.

Physicians in our study who indicated an intention to hasten the patient's death without an explicit request from the patient most often used opioids, alone or with benzodiazepines. The use of opioids for ending life are discouraged because the patient may regain consciousness and because the procedure can take longer than expected.²⁴⁻²⁶ Furthermore, the life-shortening effect of opioids is subject to speculation. Recent studies have shown that the actual effect on the end of life is prone to overestimation.²⁷⁻²⁹ The estimated time by which life was shortened in many of the cases in our study was already very limited, especially compared with the estimated time in the cases of euthanasia and assisted suicide. We also found that, although physicians specified an intention to hasten death, opioids were often given in doses that were not higher than needed to relieve the patient's pain. This suggests that the practice of using life-ending drugs without an explicit patient request in reality resembles more intensified pain alleviation with a "double effect," and death was in many cases not hastened. The problem may also exist in other countries; for example, in the study in the Netherlands, opioids were also frequently administered to end life without an explicit patient request.^{11,20,27} This points to the need for education of caregivers about misconceptions of opioid use.

We found that the use of life-ending drugs without a patient's explicit request occurred more often in Flanders, Belgium, than in other countries, including the Netherlands, where euthanasia is also legal.^{11,13,16} Flemish physicians have been shown to be more open to this practice than physicians elsewhere,³⁰ which suggests a larger degree of paternalistic attitudes. This being said, its occurrence has not risen since the legalization of euthanasia in Belgium. On the contrary, the rate dropped from 3.2% in 1998 to 1.8% in 2007.¹² In the Netherlands, the rate dropped slightly after legalization, from 0.7% to 0.4%.¹¹ Although legalization of euthanasia seems to have had an impact, more efforts are needed to further reduce the occurrence of life-ending drug use without an explicit request from the patient.

Limitations

Our study is limited because we could not exclude some degree of nonresponse bias. However, by obtaining an acceptable response rate from a large population sample and weighting for differences with all deaths, we believe the results to be representative of all deaths. Another limitation is that the study provides information only from the physicians' perspective. Also, our study does not permit in-depth case analysis, which impedes interpretation of the contents of discussion and of reported motivations in the decision-making process.

Conclusion

Our study showed that physician-assisted death with an explicit request from the patient (euthanasia and assisted suicide) and use of life-ending drugs without an explicit request were distinct types of end-of-life decisions that occurred in different patient groups and under different circumstances. Unlike euthanasia and assisted suicide, the use of life-ending drugs without an explicit patient request often involved patients with diseases other than cancer, which have an unpredictable end-of-life trajectory. This finding underscores the need for advance care planning. Finally, misconceptions seem to persist about the life-shortening effects of opioid use. Future research should closely monitor both types of physician-assisted deaths in various countries with and without legal regulations for euthanasia.

This article has been peer reviewed.

Competing interests: None declared.

Contributors: All of the authors were involved in the design of the study, the collection, analysis and interpretation of data, and the writing or revising of the manuscript. The corresponding author had full access to all of the data in the study and had final responsibility for the decision to submit for publication. All of the authors approved the final version of the manuscript submitted for publication.

Acknowledgements: The authors primarily thank the Flemish Agency for Care and Health and lawyer Wim De Broek for their participation in the organization of the data collection. Geert Pousset deserves special praise for his part in conducting the data collection. They further thank the Belgian Medical Disciplinary Board for recommending the study. They are deeply indebted to all physicians who participated in this study.

Funding: This study was funded by the Institute for the Promotion of Innovation by Science and Technology — Flanders (IWT Vlaanderen — project IWT-SBO 050158).

REFERENCES

1. Law concerning euthanasia. Belgian official collection of the laws — 2002 June 22 [Dutch]. Available: www.health.fgov.be/euthanasie (accessed 2010 Apr. 29).
2. *Termination of Life on Request and Assisted Suicide (Review Procedures) Act* [Dutch]. The Hague (the Netherlands): Government of the Netherlands; 2002. Available: www.toetsingscommissies euthanasie.nl/wetgeving (accessed 2010 Apr. 29).
3. *Proposition de loi sur l'euthanasie et l'assistance au suicide* [dossier parlementaire n° 4909]. Government of Luxembourg; 2008. Available: www.gouvernement.lu/salle_presse/actualite/2008/12-decembre/18-chd/18-4909.pdf (accessed 2009 Feb. 3).
4. *Oregon Death with Dignity Act*. Oregon Revised Statute 127.800-127.995. Available: <http://legov.oregon.gov/DHS/ph/pas/docs/statute.pdf> (accessed 2010 Apr. 29).
5. *Washington Death with Dignity Act, Initiative measure 1000*. RCW 70.245. Available: <http://wei.secstate.wa.gov/osos/en/Documents/I1000-Text%20for%20web.pdf> (accessed 2010 Apr. 29).
6. Collier R. Euthanasia debate reignited. *CMAJ* 2009;181:463-4.
7. Lewis P. The empirical slippery slope. From voluntary to non-voluntary euthanasia. *J Law Med Ethics* 2007;35:197-210.
8. George RJD, Finlay IG, Jeffrey D. Legalised euthanasia will violate the rights of vulnerable patients. *BMJ* 2005;331:684-5.

9. Battin MP, van der Heide A, Ganzini L, et al. Legal physician-assisted dying in Oregon and the Netherlands: evidence concerning the impact on patients in "vulnerable" groups. *J Med Ethics* 2007;33:591-7.
10. Quill TE. Physician assisted death in vulnerable patient groups. *BMJ* 2007;335:625-6.
11. van der Heide A, Onwuteaka-Philipsen B, Rurup ML, et al. End-of-life practices in the Netherlands under the euthanasia act. *N Engl J Med* 2007;356:1957-65.
12. Bilsen J, Cohen J, Chambaere K, et al. Medical end-of-life practices under the euthanasia law in Belgium. *N Engl J Med* 2009;361:1119-21.
13. van der Heide A, Deliens L, Faisst K, et al. End-of-life decision-making in six European countries: descriptive study. *Lancet* 2003;362:345-50.
14. Kuhse H, Singer P, Baume P, et al. End-of-life decisions in Australian medical practice. *Med J Aust* 1997;166:191-6.
15. Meier DE, Emmons CA, Wallenstein S, et al. A national survey of physician-assisted suicide and euthanasia in the United States. *N Engl J Med* 1998;338:1193-201.
16. Seale C. National survey of end-of-life decisions made by UK medical practitioners. *Palliat Med* 2006;20:3-10.
17. Chambaere K, Bilsen J, Cohen J, et al. A post-mortem survey on end-of-life decisions using a representative sample of death certificates in Flanders, Belgium: research protocol. *BMC Public Health* 2008;8:299.
18. Deliens L, Mortier F, Bilsen J, et al. End-of-life decisions in medical practice in Flanders, Belgium: a nationwide survey. *Lancet* 2000;356:1806-11.
19. Onwuteaka-Philipsen BD, van der Heide A, Koper D, et al. Euthanasia and other end-of-life decisions in the Netherlands in 1990, 1995, and 2001. *Lancet* 2003;362:395-9.
20. Rietjens JA, Bilsen J, Fischer S, et al. Using drugs to end life without an explicit request of the patient. *Death Stud* 2007;31:205-21.
21. Seale C. End-of-life decisions in the UK involving medical practitioners. *Palliat Med* 2009;23:198-204.
22. Murray SA, Kendall M, Boyd K, et al. Illness trajectories and palliative care. *BMJ* 2005;330:1007-11.
23. Murtagh FE, Preston M, Higginson I. Patterns of dying: palliative care for non-malignant disease. *Clin Med* 2004;4:39-44.
24. Royal Dutch Society for the Advancement of Pharmacy. *Utilization and preparations of euthanasia drugs*. The Hague (the Netherlands): The Society; 1998.
25. Swarte NB, Heintz AP. Guidelines for an acceptable euthanasia procedure. *Best Pract Res Clin Obstet Gynaecol* 2001;15:313-21.
26. Groenewoud JH, van der Heide A, Onwuteaka-Philipsen B, et al. Clinical problems with the performance of euthanasia and physician-assisted suicide in the Netherlands. *N Engl J Med* 2000;342:551-6.
27. Rurup ML, Borgsteede SD, van der Heide A, et al. Trends in the use of opioids at the end of life and the expected effects on hastening death. *J Pain Symptom Manage* 2009;37:144-55.
28. Sykes N, Thorns A. The use of opioids and sedatives at the end of life. *Lancet Oncol* 2003;4:312-8.
29. Morita T, Tsunoda J, Inoue S, et al. Effects of high dose opioids and sedatives on survival in terminally ill cancer patients. *J Pain Symptom Manage* 2001;21:282-9.
30. Cohen J, van Delden JJ, Mortier F, et al. The influence of physicians' life stance on attitudes towards end-of-life decisions and actual end-of-life decision-making in six countries. *J Med Ethics* 2008;34:247-53.

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